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COMMONWEALTH OF PENNSYLVANIA.

DEPARTMENT OF AGRICULTURE.

BULLETIN No. 71.

THE CONSOLIDATION OF COUNTRY SCHOOLS,

AND THE

Transporting of the Scholars by Use of Vans.

BY

H. H. LONGSDORF, A. M., M. D.



PUBLISHED BY DIRECTION OF THE SECRETARY.

1901.

WM. STANLEY RAY,
STATE PRINTER OF PENNSYLVANIA.
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"The riches of a Commonwealth
Are free, strong minds and hearts of health,
And, more to her than gold or grain,
The cunning hand and cultured brain."

—WHITTIER.

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PREFACE.

Harrisburg, Pa., December 8, 1900.

The following Bulletin upon "The Consolidation of Country Schools and the Transportation of the Scholars by Use of Vans," was prepared by H. H. Longsdorf, M. D., of Dickinson, Cumberland county, Pa. The investigation was undertaken at the instance of this Department for the purpose of securing accurate data showing the methods and expense involved in the centralization of our public schools to a centrally located graded school, including the practicability of taking the scholars to and from the central school in comfortable conveyances. If the country schools cannot be thus centralized, then there is no possibility for their ever attaining the rank now enjoyed by town and city schools, and country people have no hope of ever being able to give their children the advantages in education to which they are entitled, unless they remove them from the country and send them into the towns.

If, on the other hand, centralization is feasible, then a new era is begun in country life, and the question of the proper education of country children is completely solved.

The inadequate character of the present system and the impossibility of its meeting the needs of country people, was discussed by me in a paper read before the State Teachers' Association, at its meeting in Williamsport last July, which shows the situation and expresses my views so exactly that I take the liberty of quoting from the paper in this preface. In that paper I state:

"That if the country school is to fulfill its mission to its community as the hand-maid of agriculture, it must be different from the town school. It must be a school adapted to the needs of the community in which it is. It *must be an adaption of education to need*. The farmer's needs are varied, most important and urgent. To meet them he must have the advantage of the best school; and the best school for him is the one that teaches him the things that he needs to know.

"What does he need to know? What are the farmer's educational needs? As a man and a citizens his needs are precisely the same as those of other men and other citizens—fully as great; no less. He must be taught the things that other men and other citizens find it necessary to know—to read, to write, to compute. The studies to meet these needs are well defined, and for the most part, are fairly

taught. As an agriculturist, his needs have not been so well understood; they are special. He is dealing with the natural world. His enjoyment and his livelihood depend upon his understanding the laws that control in the natural world. He must, therefore, know nature. The studies adapted to his needs in this respect can scarcely be said to be taught at all in the country school.

"I have said that he deals with natural things. Obviously, therefore, he ought to be instructed in these things. 'Nature Study' should form part of the course in all country schools, if they are to meet the educational needs of the people who surround them—the farming people of the State.

"Can this be done? Yes. Can it be done under our present system? No. *It is impossible to give proper training in the country schools under existing methods.* Why?

"1st. For lack of time.

"To a letter of inquiry, as to the number of classes the teachers hear each day, addressed to 1,500 teachers in the country schools of Pennsylvania, selecting one from each township, I received 491 replies, representing 61 counties. Of this number fifty-two teachers heard 30 classes; nine, 31; twenty-two, 32; six, 33; eleven, 34; ten, 35; two, 36; two, 37; two, 38; two, 40; one, 45—a summary of the figures showing that 119 teachers of the 491 reporting have daily an average of 32 classes, and the general average for the whole 491 being 27 classes per day. The average number of scholars in these schools is 33.

"Counting the school day at five and one-half hours, being from 9 to 12 and 1 to 4, with two intermissions of fifteen minutes each, there will be 330 minutes for actual teaching work. Those having thirty-two classes per day will have ten minutes to a class, and taking the general average of twenty-seven classes each day, it will give but twelve minutes to a class. This includes the time lost, in scholars leaving and returning to their seats, at each recitation. Two minutes will be consumed in this, leaving ten minutes in the one case and eight minutes in the other.

"No teacher can do justice to himself or to his scholars under such conditions. No teacher, no matter how learned or skillful, can, under the present system, properly instruct pupils in the time at his disposal. And yet in the country districts throughout Pennsylvania, teachers are compelled, year after year, to attempt this impossible task. If it is impossible under the present conditions, with only the ordinary and limited number of studies at present prescribed, how will it be possible when such additional studies are introduced as are necessary, in order that the schools be brought to meet the requirements of the farmers' needs, unless there is first a radical change in the system upon which country schools are now organized. It is impossible—physically impossible. The system must first be changed.

"2d. Proper training, suited to the farmers' needs, cannot be given under existing methods, for another reason: Lack of qualified teachers. This defect, however, can soon be remedied if the system is changed, but it can never be remedied if the system is continued. The reason is clear, and it is conclusive. Teachers qualified to give instruction in the branches needed in the country schools will not take a country school because of the meagre salary that these schools pay, but will go to the town and city schools where there is less exacting work, greater conveniences, and two or three times the salary which the country offers. They will go where their attainments are appreciated and adequately paid. I repeat, therefore, that it is impossible, and will continue to be impossible, to give the needed instruction in our country schools under existing methods, for lack of qualified teachers.

"It is impossible also, for a third reason: Lack of a supply of proper apparatus in the country schools. The amount of school apparatus necessary in order to give the kind of instruction the farmers need is much larger than the ordinary school can afford to procure. Libraries, maps, charts, models, natural history collections, school gardens, green houses, etc., are all expensive, and a full equipment in these would involve the expenditure of a much larger sum than the country school, as now organized, can afford, and yet these are necessary adjuncts in the securing of a well-rounded education to fit a boy or girl for country life. What is the remedy for these serious defects in our present system?

"1st. The consolidation of the present schools, and the establishment of graded schools in the country.

"Employ, if you will, the same teachers, but bring two or three or four of them together in a single building. This will reduce the number of classes a day to each teacher, and give them time to attend to the educational needs of the scholars. It will enable school districts to pay better salaries to the best teachers who have charge of the higher grades. It will make it possible to collect proper school appliances for use in the several classes, and avoid the duplication of apparatus, which the system of schools separated from each other necessarily involves. How can this be done? Only one change is necessary. What is it? *Transportation.* The practicability of transporting scholars to and from these graded schools is no longer an experiment; it is done, and is successfully done wherever judiciously tried."

The solution, therefore, of the whole problem of rural education lies, in that of the practicability of the transportation system. The investigation of Dr. Longsdorf shows that this is done in numerous places and under ordinary conditions, and it is hoped that educators, agricultural people, school directors and superintendents will give

careful reading to this Bulletin and thoughtfully ask themselves the question, "Why do we not adopt this method in *our* district?"

No more important question has arisen in our modern civilization than this one, of the education of country people, for upon their proper training their future prosperity and that of this nation will depend.

JOHN HAMILTON,
Secretary of Agriculture.

LETTER OF TRANSMITTAL.

Dickinson, Cumberland Co., Pa., December 1, 1900.

Hon. John Hamilton, Secretary of Agriculture, Harrisburg, Pa.:

Dear Sir: I have the honor herewith to transmit the Bulletin on "Consolidation of Schools in the Rural Districts of Pennsylvania," which some time since you requested me to prepare.

In the study of the several phases of the subject, I found that its roots struck deeper than at first appeared; and also that much misconception of the objects aimed at, existed in the class such a measure is intended most to benefit.

With the view of reaching this class and rousing popular interest, I have endeavored to present the subject in the most familiar manner, without regard to literary form, using preferably the comparative method.

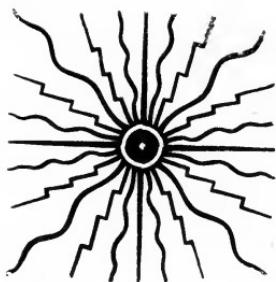
The most valuable evidence as to the practical workings of consolidation, was obtained "on the ground," in Northwestern Ohio and portions of New England. Differences varying with the conditions of the country and nature of the laws, exist in the different sections where the plan has had practical demonstration, but no backward movement has been taken and it is widely spreading over many western States.

Thanks are due many correspondents in the New England and many of the western States, for information in regard to past and present conditions of rural schools, for suggestions as to proper course of study for such schools; to many persons in this State interested in rural education; to the State School Departments of Pennsylvania, Massachusetts, Connecticut, Rhode Island, New Hampshire and Ohio, for information regarding special legislation bearing upon consolidation; to Henry Clinton Clapp, chairman of Massachusetts Horticultural Society, with reference to school gardens; to Roycrofters in regard to hand printing, and to others.

Hoping that this Bulletin may prove useful in furthering an object which carries with it great possibilities in useful and practical education, I am,

Very respectfully,

H. H. LONGSDORF.







School Vans with School Children, Gustavus Township Consolidated School, Gustavus, Ohio.

THE CONSOLIDATION OF COUNTRY SCHOOLS

AND THE

Transporting of the Scholars by Use of Vans.

THE CONSOLIDATION OF SCHOOLS IN THE RURAL DISTRICTS OF PENNSYLVANIA.

Before entering upon the discussion of consolidation as a measure for the advancement of the schools in the rural districts of this State, it may be wise to glance at some of the underlying and dependent questions connected with it.

The country school problem is not wholly an educational problem in the sense in which the term is ordinarily used. It comprises many subjects besides the quality of text-books or teachers—of method and salary, and other vital matters. It is not—putting it on a wider basis—a question of expediency, utility or of individual preference or convenience, though these enter into it. It is in fact a many-sided problem, including factors of wide-reaching value, and containing many unknown quantities relating to sociologic and economic science.

Thus, from the very outset, we have a divergence from the ordinary aspect of school questions. In the city, there is a fixity of conditions which reflects itself in the well-equipped school and the independent methods by which it is conducted. The aggregation of wealth and population, give rise to certain standards and authorities, official and non-official, which give, to an extent, security and stability to the social structure of which the school is a part.

Formerly, a somewhat similar state of things prevailed in the country. The rural population was stable and prosperous, and any matter of public interest was more or less a common charge.

MUTUAL INTEREST OF CITY AND COUNTRY.

Whatever may be said of the advantages or disadvantages of the city or of the country upon the life and development of the individual, or upon the prosperity of the State, it is certain that the welfare of the one is bound up in that of the other. The market cannot exist without the producer; the producer cannot exist without the market. The machinery is supplied by the city; the raw material by the country.

It follows that in the educational life of these two allies, no discrimination of privilege should be shown. Their interests being mutual, their duties should be reciprocal, and the State should have a care that her bounties are adjusted to the necessities of the weaker rather than of the stronger of the two.

As well might we expect to see the stately river bearing upon its bosom the evidence of prosperity and wealth, if the source in the far-away hills or rocky cliffs were dried up, as to look for the marks of a high civilization in city or town where the just needs of the country are disregarded. On the contrary, deepen and widen the spring, remove obstructing influences, shade it from the withering glare of the sun, help Mother Nature to induct into the tiny channel other contributary streams now choked by neglect, and it will become from source to outlet a beneficent influence. Along its widening course "waste places will be made glad," homes will be reared, industry will find its reward, human aspirations will have their fruition, and these, in turn, will react on the greater centres of population and wealth, where competition and the enervating effects of want on the one hand and luxury on the other have deadened the conscience and lowered humanity's ideals.

Pennsylvania, with her long list of rapid growing cities, her enormous and fast increasing manufacturing and commercial interests, cannot afford to overlook her obligations to the humblest citizen within her borders, either for self-preservation or upon the principle of equity and justice. Every citizen, however obscure or ignorant, is a factor for or against the public weal, and it is, therefore, the plain duty of the State to place within his reach the best means of making him a thoughtful and intelligent member of the body politic. It is a measure of self-preservation, because the class so reached are the natural friends of the theories that tend to desolate society or to increase the ranks of the criminal and the pauper. It is just, because it extends a helping hand to the poor man who otherwise would be doomed to a vain struggle with evil fortune.

It is highly desirable that the country school should be able to impress upon its outflow, character and intelligence. If properly administered, it would form a counteracting agency in the vast and significant movement of the strength, ambition and creative

energy of the country to the city. Thus, the permanence and true value of our institutions will depend, in great measure, on the quality of the human product now represented in the schools of the rural districts. For it is true as when the line was first penned that:

“Man is the nobler growth our realms supply.”

CHANGES IN THE RURAL LIFE OF PENNSYLVANIA.

The changes consequent upon the rapid growth of the nation as a whole, have not left undisturbed the landmarks set by the early settlers of Pennsylvania. New conditions have arisen, new outlooks opened; the very thought of former times has changed; whereas the farmer of twenty-five or forty years ago regarded himself as almost a part of the agricultural interest of the State, with his ambition bounded by the desire for acquiring land and farm improvements, he now scarcely thinks it desirable, even if it were possible, in many cases, sharing and sympathizing with the discontent that possesses the younger members of his household.

Around the farm, as it then existed, clustered many minor interests. Mechanics, who before the advent of machinery, found a livelihood in making and repairing farm implements; laborers who helped to till the soil—local industries that drew vitality from the generous surroundings and sometimes amassed modest fortunes—various branches of domestic service; these, with others, felt the impulse that came from the prosperous farm.

The farmer and the class identified with him understood the worth of an education, a fact better attested by the long lists of eminent and successful men reared in the country of that period, who are now occupying positions of prominence in every department where learning and mental sagacity count. The school was well cared for and its advantages prized. The sturdy country boy and girl “meant business” when they entered the school room in the fall. They knew their time for education was limited and, as a rule, made the most of it, and studied and *thought* with a force and originality of method that easily broke down many of the obstacles that doubtless existed. The age of the pupils was greater and they brought a maturity of thought to their work which, under less stimulative conditions, does not now exist. With this, there was the daily training in application and persistence nowhere so well impressed as on a well-managed farm or busy workshop.

The changes that have been wrought in the aspect of the rural community have come from causes outside of the sphere of farm industries. The lowered price of land and farm products accounts for them in part. Others bearing upon it, are the natural development of the country at large, through increase of population by foreign immigration and settlement of the vast areas of the west, other-

wise increase of occupations for females, liberation of slave labor. Chief among the causes for the abstraction of the more ambitious element among the youth of the rural districts is the differentiation of occupation which is constantly being intensified. Out of this has grown a demand for specialized knowledge and skilled labor in every department of productive energy, whether of physical or intellectual output, a demand that must be met by educational devices adapted to it.

A more satisfactory and accurate idea of the changes that have affected the rural population of Pennsylvania and some other agricultural States in the last several decades, can be obtained by a brief survey of the census returns relating to occupation.—(From Bulletin No. 11, U. S. Dept. of Labor.)

**PERSONS ENGAGED IN GAINFUL OCCUPATIONS BY SELECTED CLASSES,
1820.**

| Classes of Occupations. | Persons. |
|-------------------------|-----------|
| Agriculture, | 2,070,646 |
| Commerce, | 72,493 |
| Manufactures, | 349,506 |
| Total, | 2,492,645 |

The total in the above table must not be taken as representing all the persons engaged in remunerative labor, the inquiry being limited to the number engaged in these three classes.

In the census of 1840, the enumeration was more specific, resulting as follows:

**PERSONS ENGAGED IN GAINFUL OCCUPATIONS BY SELECTED
CLASSES, 1840.**

| Classes of Occupations. | Persons. |
|---|-----------|
| Mining, | 15,210 |
| Agriculture, | 3,719,951 |
| Commerce, | 117,607 |
| Manufactures and trades, | 791,739 |
| Navigation of the ocean, | 56,021 |
| Navigation of canals, lakes and rivers, | 33,076 |
| Learned professions and engineers, | 65,255 |
| Total, | 4,798,859 |

The total of the seven classes here represented, does not include servants and the large number of persons engaged in other do-

mestic and personal services, governmental officials, clerks and employes. In 1850, the inquiry was limited to free males over fifteen years of age, and the printed results comprehended simply a list of 323 occupation designations, not classified according to number engaged in each. In 1860, the specific occupations were given in the census report for all free persons over fifteen years of age, without distinction as to sex. The list comprised 584 items. In 1870, occupations were classified under four general heads, namely, agriculture, professional and personal services, trade and transportation, and manufactures and mechanical and mining industries, comprising 338 occupation designations. This presentation of occupation comprehended all persons ten years of age or over, sub-divided according to sex, their age-periods and, for those of foreign birth, according to twelve principal nationalities.

In 1890, the same general plan of classifying occupations was observed as in 1870 and 1880, but the sub-division according to sex, age-periods and nationalities of the foreign element was in 1890, very much extended and many other important details added.

NUMBER AND PER CENT. OF PERSONS TEN YEARS OF AGE OR OVER IN EACH CLASS OF OCCUPATIONS, BY SEX, 1870, 1880, AND 1890.

| Census Years and Classes of Occupation. | Number. | | | Per Cent | | |
|--|------------|-----------|------------|----------|----------|--------|
| | Males. | Females. | Total. | Males. | Females. | Total. |
| 1870. | | | | | | |
| Agriculture, fisheries and mining, | 5,744,814 | 397,049 | 6,141,863 | 53.84 | 21.62 | 49.11 |
| Professional service, | 278,841 | 92,257 | 371,098 | 2.61 | 5.02 | 2.97 |
| Domestic and personal service, | 1,338,663 | 973,157 | 2,311,820 | 12.55 | 53.00 | 18.48 |
| Trade and transportation, | 1,209,571 | 19,828 | 1,229,399 | 11.34 | 1.08 | 9.83 |
| Manufacturing and mechanical industries, | 2,098,246 | 353,997 | 2,452,243 | 19.66 | 19.28 | 19.61 |
| Total, | 10,669,635 | 1,836,288 | 12,505,923 | 100.00 | 100.00 | 100.00 |
| 1880. | | | | | | |
| Agriculture, fisheries and mining, | 7,409,970 | 594,651 | 8,004,624 | 50.25 | 22.46 | 46.03 |
| Professional service, | 425,947 | 177,255 | 603,202 | 2.39 | 6.70 | 3.47 |
| Domestic and personal service, | 2,321,937 | 1,181,506 | 3,503,443 | 15.75 | 44.63 | 20.14 |
| Trade and transportation, | 1,803,629 | 62,832 | 1,866,481 | 12.23 | 2.38 | 10.73 |
| Manufacturing and mechanical industries, | 2,783,459 | 630,890 | 3,414,349 | 18.88 | 23.83 | 19.63 |
| Total, | 14,744,942 | 2,647,157 | 17,392,099 | 100.00 | 100.00 | 100.00 |
| 1890. | | | | | | |
| Agriculture, fisheries and mining, | 8,333,813 | 679,523 | 9,013,336 | 44.28 | 17.36 | 39.65 |
| Professional service, | 632,646 | 311,687 | 944,333 | 3.36 | 7.96 | 4.15 |
| Domestic and personal service, | 2,692,879 | 1,667,698 | 4,360,577 | 14.31 | 42.60 | 19.18 |
| Trade and transportation, | 3,097,701 | 228,421 | 3,326,122 | 16.46 | 5.84 | 14.63 |
| Manufacturing and mechanical industries, | 4,064,051 | 1,027,242 | 5,091,293 | 21.59 | 26.24 | 22.39 |
| Total, | 18,821,090 | 3,914,571 | 22,735,661 | 100.00 | 100.00 | 100.00 |

According to the above figures, persons engaged in agriculture and mining, constituted very nearly one-half (49.11 per cent.) of the whole number of persons occupied in 1870, and less than two-fifths (39.65 per cent.) in 1890. More than two-thirds of this loss has occurred between 1880 and 1890. There has been, on the other hand, an increase in the proportion of persons engaged in each of the other great classes in 1890 as compared with 1870, the largest increases being shown for persons engaged in trade and transportation and in manufacturing and mechanical industries. In 1870, persons engaged in agriculture, fisheries and mining constituted 15.93 per cent. of the total population, and but 14.39 per cent. in 1890. The percentages of persons engaged in agriculture only, were 15.43 in 1870, and 13.68 in 1890. These figures show a steady decline in the proportion of persons engaged in agricultural pursuits, and the relatively decreasing importance of agriculture as a means of livelihood.

If the census tables of the last three periods could be further quoted, taking the States and Territories individually, a still more definite idea could be obtained as to the increase of manufacturing and mechanical pursuits and the decline of agricultural occupations in the North Atlantic States. In 1890, only a little more than 6 per cent. of the total population in Pennsylvania was engaged in agricultural pursuits.

Further analysis of the tables of the last two periods shows a relatively larger increase of female workers over male workers. Division of classes of workers into groups show a rise in occupation in Pennsylvania. A considerable increase of women in professional service and in manufacturing and mechanical industries has occurred, reaching nearly 7 per cent. in 1890.

It must be remembered that the above quotations are of the simplest form. They are given as indicative of the trend of occupations and the increase of wage-earners.

Deductions from this partial presentation of industrial progress in recent years are:

1. The scale of labor has risen, there being a perceptible increase in the proportion of persons engaged in the higher grades of work in 1890 as compared with conditions twenty years earlier.
2. The population in the rural districts is in a transitional state, part of it moving toward the centralized industries in the cities and manufacturing centres. It is there dispersed according to ability, knowledge and taste. Another part remains amid the less affluent and alluring surroundings, to utilize the agricultural possibilities in the most economical and practical way, keeping up, to some extent, the old-time traditions, beautifying the country, opening up new avenues of industry and cultivating in patience and hope the growth

of future expectation, thus serving as a counterpoise to the tendency to desert the country.

3. The city-ward tendency is not a temporary movement.* It is steadily increasing and will go on *if some preventive remedy is not applied*, until deterioration not only of material interests, but of the race sets in. Poverty, illiteracy and a host of evils that accompanies the loss of motive to high living, will follow in the train of neglected rural interests. Examples are not wanting of these effects.

The mountain whites of the South afford an illustration of the results of such a tendency operating through several generations. The original stock from which they came was good, but living remote from civilization and out of the current of modern progress, they have lapsed back into a condition of semi-barbarism. What their influence is as against order and governmental safeguards, the events in Tennessee and Kentucky within the last year or two go to show. Other instances of a like nature abound in the detached communities of the older and newer States. Pennsylvania, in the ten years between 1880 and 1890, shows a loss of population in 919 townships. No accurate estimate of the loss up to the date of the twelfth census can be given, but from the growth of the cities in that period and the decline of the smaller industries of the rural districts, a fairly just opinion can be formed that the adverse influence upon the country has not diminished.

The most powerful factor in opposing the tendency to the cities is education. From the educational side must come a counter movement, strong enough to offset in some degree the discontent of the farmer and the necessities of the laboring class. Along with these must be met a class of interests not properly of a material sort. The desire for a higher education and for opportunities leading into the wide field of asthetic and artistic employment and of the gratification of strong individual tastes, has grown until it has created a demand for specific elementary training, in the common school, as insistently urgent as the knowledge of the three R's.

THE COUNTRY SCHOOL AS IT EXISTS DOES NOT ANSWER THESE SEVERAL WANTS.

We have traced the steady increase of influence adverse to the rural population. We have seen that they are continuing in an ever-progressing ratio. The Pennsylvania of to-day is not what it was in the era when the "Great Commoner" championed the common school system so intimately linked with his name. The system which has been found so well adapted to the conditions of the past has been outgrown and no longer in harmony with the spirit of the age, be-

cause elastic as it is, it does not furnish "equal opportunities and enlightenment for all." Our practical forefathers devised the school machinery so that it might reach to the smallest and remotest nook where a ward of the State could take up its abode. The corner stone of the structure they built up in the hope of securing the widest liberty of thought and action for the people they sought to serve, was "equal rights to all." It may be said, the system as founded still stands; but if it no longer subserves its original purpose, *we and not they must be held responsible.*

The consolidation of the schools in the rural districts is a practical and feasible measure. Premising that consolidation cannot as yet be made universal in application in this State, it is offered as a remedy for existent ills in the districts most effected by the disintegrating processes of later periods, subject to many modifications of place and circumstance.

Let us examine in brief detail some of the phases of educational life where it would apply, and some of the benefits accruing from its adoption.

THE SMALL SCHOOL.

A practical educator—and as wise as practical—has said: "The first thing a good school wants is children." A very small school is almost always a poor school. There is absent in it the incitement of rivalry and friendly emulation as well as the encouragement found in companionship. If each child pursues a different study, as sometimes happens, there is still less of that reflex action which lightens the task and opens the mind. The difficulty of organization in a small school is so great as to be practically impossible. In the country, bad roads, distance, stress of weather and, in frequent cases, disinclination, serve to keep the school even smaller than the number of children of school age would warrant. In a school of this kind there is frequently great irregularity of attendance and unpunctuality in lessons, failures which may be forgiven under the circumstances. There is no spring of enthusiasm to inspire the teacher or of sympathy or interest on the part of the patrons. Nothing can be done in a school of small size in the way of special studies, unless the teacher is phenomenally conscientious and possesses strong personal qualities.

Individual teaching often brings good results. It was the method most in vogue in the southern States in the ante-slavery period and many accomplished scholars came from the training of the governess or private tutor who was brought there from the best northern schools. But this was a wholly different system. As the ordinary common school of low grade is found in the sparsely settled districts, it possesses little educative value, and might with advantage be closed and its feeble force united with a larger one.

THE LACK OF TRAINED TEACHERS IN THE COUNTRY.

Every years brings an output of trained and presumably efficient teachers from the normal schools and colleges. They are full of enthusiasm and real love for their work. From contact with disinterested and unselfish minds and from purposeful books they have imbibed a certain nobility of purpose; something of the passionate fire of humanity animates them. They long for opportunity-to-impart something of the spirit that burns in their hearts. But they also possess a share of self-appreciation. They are conscious of power in the direction of their elected work and they decline, except under the compulsion of circumstances, to "bury themselves in the country." They have a natural ambition. The little school, with nothing in its exterior surroundings or inside equipment to attract the eye or inspire the mind, is too insignificant for a teacher who hopes to demonstrate the dignity of his profession. The cultivated taste that found food and fostering desire in the hall of learning left behind, with its specific influences of intellectual riches, cannot at once contracted to the narrow limits enclosed by the rustic fence, or not enclosed at all, overgrown with weeds, destitute of even the elements of the picturesque.

The ordinary graduate-teacher is not a missionary. He cannot justly be blamed if he turns to the city or prosperous towns and takes a place in the better organized and better protected school. But sometimes such a teacher gets the country school. Influences of local relationship, or other affiliations with the community, or necessity or desire for experience often lead to such a result, and "just for the term," "till something better turns up," the place is filled, sometimes satisfactorily filled, but often quite the reverse. It cannot be expected that a teacher who is ever on the alert for bettering his position, who is perhaps pursuing an upward course of study himself, will do more in such a school than the letter of the law demands. There is a pathos in the situation, not sentimental, but real pathos. The school is taught; it may be the last opportunity for some gifted child—and if it fails—if the school is ill-taught, the evil, the far off interest of misjudged action may change the destiny of a human soul.

Here, then, are two factors common enough—every country director knows—the small school, the trained but dissatisfied teacher. The unsightly building, the antiquated and insufficient supplies, the cultivated but unsympathetic leader. If two or three or ten such schools, varying a little as to quality and numbers, but all on the same plane could be united, if the saving of salaries and fuel and repairs could be expended on better equipment and better house improvements, if a sufficient teaching force could be supplied in the elementary and special departments, the dissatisfied teacher—dissatisfied because hopeless of achieving good results, would very likely

blossom out into a brilliant potentiality, or if not he could be sup- planted by one of finer fibre.

It is possible to keep up a school of five, or eight or ten pupils. It is done every year in Pennsylvania. So long as the State continues to make such noble provision for the educational needs of her children, and so long as the taxpayers are satisfied, it can be done. So long as this is the only available way of reaching the children of any district and supplying them with such instruction as can be given under the circumstances, it *must* be done. It is not claimed that such schools do not accomplish a certain amount of good. Probably in some of these schools there will be one or more examples of that true American grit which achieves its object in spite of difficulties, and so serve in coming generations "to point a moral or adorn a tale," for the encouragement of the poor boy in the country, who like Lincoln and Grant "grows to fame's high towers" in the face of hindering obstacles. It was Huxley who said, "it was worth a million dollars to discover a Faraday." No era has a monopoly of human genius, and if Pennsylvania were to expend wisely a million dollars on the schools of the enfeebled rural districts, another, and more than one as great as Faraday might arise out of obscurity and the mists of ignorance and go to his predestined work.

CONSOLIDATION AN AID TO ADVANCEMENT THROUGH CLASSIFICATION.

One of the greatest objections to the mixed country school is the impossibility of profitably classifying the pupils. For this purpose the large schools in the more populous districts or suburban villages are even more unwieldy than the very small one. It is accomplished, and very fairly, considering the difficulties, but it is at the expense of a vast deal of energy and brain work that might better be applied in more direct teaching. The classification established at the beginning of the term is liable to be broken in upon by the late entering pupils who have been employed during the summer and early fall. The teacher is thus often forced to form new and additional classes, and valuable time is taken from those already at work. The great desideration in schools where the course of study is confined to the elementary branches is a reduction of class exercises. Where there is no apparent limit to the spelling and reading and rudimentary arithmetic classes, such as are found in every country school, there is no mental stimulus for teacher or pupils, and teaching and learning alike become a joyless drudgery.

But as soon as the school is grouped in partial grades the trouble diminishes. The promotion from class to class and from grade to grade affords a wholesome incentive to the child, and to the teacher

a better opportunity of impressing the true principle of education upon the school. If two or any number of such schools near enough to each other to make it convenient were united, a more complete system of classification would follow, and there would be at once the nucleus of a high school. Enough of the more advanced pupils would be found able to take one or more of the higher branches, the loiterers would feel the impulse of the grading, and the gain throughout would be so great as to speedily yield a percentage of high school and preparatory normal school students who otherwise would in all probability drop out of school while still in the elementary course. The gain in time for the pupil would be enormous; practice in drawing, reading from selected literature, instruction in Nature studies, physical culture and other special training could be substituted for the old methods.

CONSOLIDATION THE ONLY METHOD BY WHICH EVERY TOWNSHIP IN THE RURAL DISTRICTS CAN HAVE A HIGH SCHOOL.

From the preceding propositions, it will be seen that without a definite change of system, the pupils of the outlying schools cannot go much beyond the elementary branches. The lack of appliances for illustrating the principles of the higher mathematics and other sciences, want of time from the necessity of maintaining numerous classes, and the absence of systematic grading, are reasons for the school, even under a good teacher, never getting farther than a certain point—a point a little below the grammar school grade in better schools. By that time the weeding out process has begun. The boys usually drop out, first, either aiming at securing employment or obtaining better educational advantages elsewhere. The girls remain a little longer, but none, or very few, stay until they have thoroughly mastered the few advanced studies possible to be taken in such mixed schools. The consequence is that even under the provision by which properly fitted pupils can be admitted to contiguous schools of a higher grade, they cannot claim it.

The high school contemplated under the consolidated system is, however, something different from the ordinary town or city high school. It is designed to be a *training school* with a specific object; namely, that of fitting a class for its sure duties, to put the worker in harmony with his work.

One of the anomalies of the education thought of the day, is to apply the same general principles to the education of the country child as to that of the city; yet their environments are antipodal. A hoped-for result of consolidation is to correct this and to give a practical trend to the first steps in learning.

In this, as in other things, the city takes care of itself. The school early gives a bias to the child's outlook in life. It is taught its duties to the public, to society, to all that relates to civic responsibilities. It early recognizes the importance of conforming to conventional rules and customs, and to the power of public opinion. It develops an interest in local matters, and takes a pride in local progressive movements.

External influences are brought to bear upon its education. The press, the pulpit, the social reformer, unite in holding up high ideals of thought and living before the schools. Libraries and reading-rooms give information as to the world without, and the place it holds for the youthful aspirant, so that by these influences, with the special knowledge gained in passing upward, the student is enabled to judge of his own fitness for a selected course in life.

The country school has the same curriculum, without the practical illustration, the proposition without the demonstration. The outcome of the child's education is left largely to chance and circumstances, and of the class that goes forward into higher courses of learning, a large proportion enter the learned professions, which severs the tie that would naturally hold them to home and childhood associations. It is a significant fact that instances are rare where the great man in letters or science who sprung from the country, returns to lay the tribute of affection at Nature's feet. With a few noble exceptions, he is content to let the farm that nourished his youthful strength go to ruin and decay, while he builds libraries and endows schools of learning in the city that shares his fame. With a sentimental regret he can gaze upon the poorly appointed school house, while he showers benefits upon his *alma mater*.

In this connection, it may be noted as a singular fact bearing upon the subject, that of the thirty or upwards colleges and universities in Pennsylvania, there is only one entirely devoted to the promotion of agricultural interests. It is probable, if the country high school, as proposed, could be established, with special courses leading to expert knowledge in various farming and dairy departments, a large increase of students desiring to enter upon these higher courses of study would ensue.

SELECTED COURSES IN EDUCATION FOR COUNTRY STUDENTS.

If the children of a district were brought together and placed under a competent head, and the school in good working order, it would then be possible to give some order to the division of studies for those in the higher grades. For such as intend going into the mechanical arts, a saving of time could be thus effected. For those looking forward to a classical or literary course leading to the professions and for those who expect to remain in the country and be-

come identified with its local interests, either in farming, mining, fruit culture, or any of the industries established in different parts of the State, congenial and profitable instruction could be provided, such as would at once strengthen the intellect and enable them to take advanced ground in their further progress.

Statistics are not obtainable to show what proportion of the students in the leading institutions of this State came from the country, or the whole number pursuing the more professional and technical courses of study during four years preceding graduation. It will be seen, however, from the lists of graduates, that Pennsylvania favors practical and speedy results in learning as well as in more material matters. There is not so much stress laid upon knowledge for knowledge sake as in New England and some other States.

The University of Pennsylvania, of degrees conferred June, 1900, there were:

| | |
|--------------------------------------|-----------|
| A. B., | 16 |
| Music, | 2 |
| B. Sc., | 27 |
| B. S. Biolog., | 5 |
| M. A., | 11 |
| Ph. D., | 15 |
| Honorary, | 2 |
| Total, | 78 |
| <hr/> | <hr/> |
| B. Sc. architecture, | 7 |
| B. Sc. chemistry, | 11 |
| B. Sc. civil engineering, | 4 |
| B. Sc. economics, | 10 |
| B. Sc. electrical engineering, | 7 |
| B. Sc. mechanical engineering, | 7 |
| M. S. technical, | 1 |
| Mechanical engineering, | 1 |
| Total, | 53 |
| <hr/> | <hr/> |
| Law, | 83 |
| Medicine, | 180 |
| Dentistry, | 144 |
| Veterinary, | 11 |
| 318 | <hr/> |
| 471 | <hr/> |

In all, there were 549 degrees conferred, of which 15 per cent. represent literary training and 85 technical and trade pursuits.

Taking three other institutions:

| | Literary degrees. | Technical or trade. |
|---------------------------|----------------------|------------------------|
| Lehigh, | 11 | 48 |
| Lafayette, | 30 | 14 |
| Pennsylvania State, | 4 | 42 |
| Total, | 45 | 104 |

Viewed from the standpoint of the country or State at large, it would be a gain to prepare the students taking these courses in the home high school, the terms of admission being made on the high school standard. More students would enter the higher institutions and all branches of industry would ultimately be benefited.

The possibility of taking such a higher course would act as a stimulus to the country student, keeping him out of the way of the commoner allurements of the city. Thus, briefly stated, the consolidated high school might be expected to bring about these results:

1. A gain in time.
2. A gain in number of students.
3. A reduction in expense of higher education.
4. A reduction of the number going into the laboring employments.
5. A gain to the individual and to the State, reacting favorable on each.

A COURSE OF STUDY ADAPTED TO THE CONSOLIDATED COUNTRY SCHOOL.

As has been seen, it is not desirable to make the country school a reflected copy of the city school, however excellent the latter may be. The departure from the course usually laid down, should begin in the elementary grades. Every encouragement and incitement should be offered to secure a thorough and practical knowledge of trees and plants, insects and animals, rocks, and, more than any of these, of soils.

Comparisons of scenery and localities along the route to school, oral and written, and depicted by pencil, however crude the effect would be. The country child needs a vocabulary and the power of expression. Emulation in work of this kind brought out in noting particular objects, natural or incidental, that may have historical interest, or local material interest, would often turn the imagination away from the distant and more brilliant occurrences in the towns

and cities to their own home surroundings and a germ of pride of nativity, thus implanted would outlast many more pretentious devices for securing the same end. The cultivation of the powers of observation—often called another sense, and of tracing the indications of unusual and curious natural formations to their ultimate meaning would tend to strengthen that recognition of a Higher Power innate to the human soul, develop the desire to become allied to the hidden influence that moves Nature's forces, and thus to form the true patriot, the worthy citizen, the humble Christian, as well as the accurate and logical thinker.

Two sets of the mental powers would be exercised by such methods—the external, or observing sense, and the internal, or reasoning sense. So, too, the country pupils should be taught something of the labor problem, of the relations of the wage earner to his employer and of the reciprocal duties of the State and the citizen. These processes, almost entirely ignored, because impossible under present conditions, would make enormous additions to the intellectual stock of the country child and would have an influence on the home.

The environment of the country school is favorable to the evolution of the scientist, whether in the natural sciences or in the learned professions. It is favorable to the evolution of the thinker in every line. It is favorable to the evolution of the artist and of the citizen. What these waiting forces want is opportunity; the school is the opportunity. The power of early impressions is beyond computation, and if a natural gift or tendency is reinforced by the suggestions of a wise teacher in the earlier developing stage, Pennsylvania would soon take first rank in education among her sister States.

SOCIAL INFLUENCE OF A CENTRAL CONSOLIDATED SCHOOL.

Country life in the remoter districts tends to repression. One of the strongest attractions of the town for the country child, is in the greater opportunities for companionship found there. Not only the child but the elder feels the drawing of that instinct which leads mankind to rejoice in association with each other. The dozen or more schools of various sizes scattered over the country district, some difficult of access from rough and unsafe roads, often situated in a neglected and out-of-the-way spot, have little incentive to join forces in the school exercises or to impress their work on the homes and social interests of the neighborhood. Singly and detached, they cannot generate the power to penetrate the lives of the several groups that compose the pupils, or to serve as object lessons of the value of the true and the beautiful in human helpfulness. Isolation for the young is irksome, and they early form the resolve

to forsake the dull routine of oft-covered lessons which seem to hold no promise of personal benefit. The city, with its cultured society, its atmosphere of refinement, its multitude of objects and outlets for every shade of taste and interest, appeals to the youthful nature. Here are possibilities—openings for enterprise and pleasure; here, too, are sympathetic hearts to understand their hopes.

To another class, the succession of “events” in the city gives a holiday aspect to life all too prosaic in their experience, and a comparison is to the disadvantage of the country. With a common meeting point with the mutual interest of school work and the interchange of thoughts and feeling, and the frequent presence of parents and friends on the special occasions sure to be inaugurated in such a school, the whole community would be uplifted and cheered.

The oft-mooted question as to how far the State should extend its jurisdiction into the home and family circle, presents itself here. This question comes into every educational advance proposed. The American people are jealous of their “rights,” and so sometimes lose sight of the more weighty interests involved. “Paternalism” is an ugly word to American ears; still, under the modifications and restrictions of an enlightened public opinion, it would assume a different meaning, and work for good, if its beneficiaries could be induced to look at it from all sides. This is one of the principal objections urged against consolidation in the rural districts, that it savors of “paternalism” and “favoritism.” Nothing could be farther from the truth. It tends, in fact, to just the opposite. If, under the improved social conditions suggested, where all the people of a district—not necessarily a school district, but one from convenience included in the central school, could frequently meet and witness the operation of new measures and receive themselves new ideas and new information along the line of their daily work and outlook, they would soon see what the best educators have long seen, that the best policy of the State government is to lift the people out of the rut into which they may have fallen, and the best policy of the people is to allow themselves to be so lifted.

Germany has its finger on every child in the schools. The idea is that a nation should provide for the education of the people, and it has provided for the education of the whole people—for the young in primary and secondary schools, for those more advanced, in technical schools and universities. So educated, they are broad, they are leaders of thought, they are strong in every direction and return fourfold the benefits they have received. The child feels that the great eye of the nation is upon it; that its course is followed, its development watched. It is “cared for” to that extent that the child feels—even the little child in the primary schools—the throbbing of a genuine patriotic sentiment in all its veins. They boy exists for the schools; his ideal is to be a state-

appointed citizen and to share in the grandeur of the fatherland. Patriotism and industry go hand in hand to make of him a useful, a self-supporting, a religious man.

Under the consolidation plan, something of this would come about. The people and the children who have not enough resources within themselves are brought a little nearer to the State, or, it might be better to say, the State is brought nearer to the child. There would be more comprehension of mutual dependency. The city has many ways of cultivating this relationship—the country has only one, the school. The State would also have closer supervision over the school and the interests other than educational represented in it.

In minor ways, the uncounted influences of greater social intercourse would be worth much. With a common meeting point, the older and younger members of the community would imbibe something of the sweet and ennobling spirit of Nature's teaching. They would learn the true dignity of labor and the beauty of a life occupation that lies within the simpler forms of life. The farmer would often visit a school established on a basis which he comprehends, and instead of the worn-out subjects for debate, exhausted by our forefathers, he could suggest other and more vital subjects and more in the line of modern agricultural progress. "Forestry," "Good Roads," "Stock," as against "Cereal Raising," "Dairy" and "Truck" farming; these, though not so pretentious as the tariff and the currency questions, are just as important to the well-being of the State, and much nearer to the circle of rural interests. Concerning the worth of rural training, the opinion of Francis W. Parker is well worth quoting:

"No method, no system of schools, no enrichment of course of study, not even the most successful of teaching, can ever take the place in fundamental education of the farm and the workshop. No matter how good the city schools may be, or may be made; no matter how good the state of society may be, the vital reinforcements of city life that lead to progress and prosperity must always come from the sturdy stock of the farm. This fact, upon which most educators agree, puts upon the country school an immense responsibility.

* * * The country school should make farm labor and all labor honorable, should dignify it, should show that the environment of the country furnishes inexhaustible resources for intellectual life; that the child bring a loving heart to nature; that the so-called practical things of life, hard and severe labor should have their highest outcome in the cultivation of the love of the beautiful in life."

CONSOLIDATION OF RURAL SCHOOLS IN OPERATION IN NEW ENGLAND STATES AND PORTIONS OF OHIO.

As no argument is so convincing as authentic evidence, it will be interesting as well as instructive to sketch briefly, the history of consolidation as it worked its way from small and experimental beginnings in Massachusetts to its present acknowledged standing in all the New England States, portions of Ohio, Dakota and in a few places in Pennsylvania. New York also is testing it in a more or less modified form.

In following these outlines it will be well to bear in mind that rural life in New England differs from that of Pennsylvania. Nothing strikes the traveler from the middle and western States more forcibly than the comparatively small areas of what are called farms and farming districts. There is the absence of that air of thrift and plenty of nature's abundance—fields of waving grain, great barns and well-kept outbuildings so dear to the heart of the Pennsylvanian. In brief, there is notably the difference between the manufacturing and agricultural aspect. The same rules or plans in education and in some other things do not apply to both. There is also to the Pennsylvanian, accustomed to the township system, something confusing in the New England school nomenclature. It is misleading to hear the word town used for what in this and some other States is a township. It is not necessary to explain further the full meaning in application of the two terms, except to indicate that the term town, as it is used in one place, is totally different in meaning in another. Township division, or the township unit, as it is variously called in its application to schools, is a much more convenient system than the "district system" formerly and still in use in parts of New England and in other States.

The district system was the great obstacle to consolidation when it was first proposed.

*SOME DETAILS OF THE PROGRESS OF CONSOLIDATION OF SCHOOLS IN MASSACHUSETTS.

Like other radical reforms, consolidation of schools grew out of the immediate needs of a neighborhood or of several neighborhoods. The tendency of the youthful part of the country population to desert the homestead and follow the allurements of wealth and enterprise to wider fields, left its first disastrous effects upon the school. The "little red school house" so celebrated in local literature, so dear in its associations, and so effective in its work in the

*Compiled from the pamphlet of G. T. Fletcher, agent of the Mass. Board of Education; from the Reports of Secretary Hill, of the State Board of Education, and from private communications.

earlier history of the country, no longer answered the more strenuous demands of the time. It was at the cost of a painful sacrifice of sentiment that a change was made. In the time of stress and struggle, when New England was moulding its forces for future conquest, the country school house was the center of interest to both old and young for many miles around. The stalwart youth of eighteen or twenty found in its unpretentious but thorough teachings, sufficient intellectual equipment for the future he had marked out for himself, and there the maiden whose name afterward shone like a star in the annals of literary achievement received her first inspiration. But the onward march of progress cannot be checked by a sentiment, and the wayside school was abandoned altogether or left to so small a number that it became a mere question of economy to close it. A diminished population, a lowering of property valuation and fewer children, yet each of these a just claimant of the State's bounty. The remedy was simple, and apparently the only one, viz: to unite the small and weak schools of a town dispersed over a large territory into a few strong, well-equipped and well-graded schools, at a point best suited for the purpose.

*“Notwithstanding all the inconveniences and difficulties, we believe the only practical way to elevate schools to a higher standard is by consolidating and transferring the pupils of the rural districts to the center.

“The town of Concord is regarded generally and properly as the pioneer in this movement, to close all her district schools, primarily from educational motives, and to convey their pupils to the graded central schools. The results in Concord were observed carefully by the educators in Massachusetts, and found to be good, and many of her near neighbors have already followed her example.”

From the same report we learn how obstacles were met. “Concord is a town of about 4,000 inhabitants, situated twenty miles northwest of Boston. For school administrative purposes it was divided early in the century into two village districts, and five rural districts. For many years prior to 1870, the common schools of Concord were twelve in number, occupying eleven houses. Five of these schools were placed in the central village, two at West Concord and the remaining five were country district schools for the accommodation of the outlying farming population. The district school houses were at distances from the center varying from one and one-half to three miles. At the center was the high school, to which children came from all parts of the town (township).

“These schools were taught by experienced teachers, most of whom had received a special training for the work. The influence of Colonel Parker's great work at Quincy was reflected in many of the

schools. Yet the general results were far from satisfactory, and the school committee, under the leadership of their superintendent, Mr. John B. Tileston, met the emergency resolutely. A vigorous agitation procured from the town an appropriation of money sufficient to build and equip an eight-room school house at the center.

"An immediate and inevitable improvement in every quality that distinguishes a good from a poor school resulted. The school committee then turned their attention to the district schools. The center school would accommodate all the children, and the laws of the State enabled the town to raise and appropriate money 'to be expended by the school committee in their discretion in providing for the conveyance of pupils to and from the public schools.'

"The school committee adopted the suggestion, that it was advisable to close the district schools and to convey the children to the center. To carry the suggestion into effect was a difficult matter. The difficulty can be realized when it is understood that a period of nearly ten years elapsed between the closing of the first and the closing of the last of the five district schools, and that during these years the successive school boards never lost sight of the end in view, nor relaxed their efforts to reach that end. A strong conservatism existed in the districts. The idea of consolidation was novel, and raised doubts and objections that could not be met by past experience. On the other hand, it was possible for the plan to prevail in the end because the communities directly affected were highly intelligent, and formed their judgments thoughtfully and correctly. It is an interesting fact, also, that during the whole ten years of change, a majority of the committee were farmers."

Attention is called to several points in the foregoing extract:

1. The impelling motive in the action taken by the school authorities was to provide better advantages for the children, not only of the outlying districts but for the whole number of pupils who would, under the plan, be brought together in one well-graded school.
2. The movement was slow, for the reason that the school authorities aimed to enlighten public opinion and thus create a sentiment in favor of a more elevated standard in public education.
3. The movement was never allowed to drop out of public view. Every successive school report during the time of agitation for the measure, contained references, appeals and statements in regard to it. Numerous addresses were also made and the legislative bodies for the most part were in sympathy with it.

CONVEYANCE OF THE CHILDREN.

Scattered as were these rural populations, and in some cases in rough and broken country, their conveyance to the school at the center proved to be the stumbling block in the way of the proposed

reform. A halt of public opinion occurred at the point where the duties of the State seemed to conflict with the duties of the parent. As the State supplied the means, the parent or school community ought to provide in some degree the manner. The distribution of State aid would require re-adjustment. Great social inequality, or moral unworthiness and many minor considerations entered into the situation.

To illustrate: It was stated in the session of the Directors' Convention of Pennsylvania, held at Harrisburg, in 1899, that a difficulty of this nature existed in Chester county, of this State, where consolidation has been tried. Objection was made to the foreign element, notably, Hungarian.

Conveyance of children is liable to abuse by over-indulgence of whims and needless anxiety of parents. There is little danger of robbing the child of that finer fibre of independence, which is worth so much in after life as to become a question whether too much aid is not worse than too little. In some of its phases, the difficulty of conveyance is sure to confront the school board in the settlement of the central school question.

THE PROBLEM OF CONVEYANCE AS MET BY MASSACHUSETTS.

G. T. Fletcher, Agent of the Massachusetts Board of Education, gives the following results of inquiries as to how the difficulty was met in that State:

"Approximately 45 per cent. of the towns report that they give equal consideration (in conveyance) to young children of both sexes. Ten per cent. report that they give a preference to girls in their plans. Twelve per cent. consider the character of the route. Thirty-two per cent. make no discrimination as to children, schools or routes."

PAYMENT FOR CONVEYANCE.

"Payments are sometimes made to parents for the actual attendance of children, so much per day a child. Payments are most frequently made to persons hired for the purpose, or, where practicable, to steam or electric railroad companies. Some parents carry their own children for a stated sum.

"In 43 per cent. of the towns the school committee makes bargains and settles details; in 10 per cent. a sub-committee of the school committee; in 5 per cent. chairman of school committee; in 12 per cent. the superintendent of schools; in 4 per cent. by the committee and the superintendent."

NO BAD RESULTS.

"The apprehensions of the owners of real estate that a depreciation of values would result if the local schools were closed, have

proven to be groundless. The natural reluctance of parents to send their young children so far from home, and for all day, to attend the central school, has vanished. The children are conveyed in comfortable vehicles, fitted up for their accommodation. They are in charge of trusty drivers en route, and at noon they are under the especial care of one of the teachers, who has an extra compensation for the service. When it is practicable, a farmer living near the extreme end of the district is employed to convey the children. Often the farmer's wife drives the conveyance. Three two-horse barges and two one-horse wagons are in use at present. All these vehicles are fitted with seats running lengthwise, and are closed or open at sides and ends, as the weather requires. The driver starts from or near the remote end of his district and drives down the principal thoroughfare, taking up the children at their own doors or at cross-street corners.

"The attendance of the children conveyed is several per cent. better than that of the village children, and it is far higher than it was in the old district schools. This is not strange when one reflects that the children are taken at or near their own doors and conveyed to school without exposure in stormy weather. Discipline is maintained in the carriages as the driver has ample authority for this purpose. The children are conveyed from one to three and one-half miles. The cost of transportation is about fifty dollars per week. It is estimated that it would cost seventy dollars a week to maintain schools in all the districts.

"Whatever advantages a system of carefully graded schools, occupying a well-ventilated and well-cared for school house, taught by a body of intelligent and earnest teachers, co-operating to secure the best discipline within and without the school room, has over a mixed country school, *such advantages are shared alike by all the inhabitants of this town. All alike are interested in all real progress in methods of discipline and instruction and in improved appliances to aid instruction.* Superintendence becomes more efficient. The introduction of new subjects of study and of drawing, music and nature study is made possible and easy. Appliances of all kinds and books of reference can be provided more extensively and at less cost. The history of this movement in Concord conclusively shows that the success of the plan was due to its intrinsic merit, acting upon the minds of an enlightened people desirous of furthering the true educational interests of their children."

SUBORDINATE ADVANTAGES.

1. "All the children of the town meet on the same arena, test the quality each of the other, and exchange from the beginning those influences which will mould them to act together harmoniously and intelligently in the future.

2. "All the parents of the town have an equal interest in the welfare of the two central system of schools.
3. Many families have come to live in the town because of its educational advantages. The farms that come upon the market find readier sale than before.
4. "The children from the farming districts are no longer distinguishable from the village children by a certain awkwardness of manner or address.
5. "The moral tone of the school and of the school yards has been elevated wonderfully."

FURTHER PROGRESS IN CONSOLIDATION.

In 1893, Supt. Eaton prepared a statement of the results of the law authorizing transportation for the Massachusetts public school exhibit at the Columbian Exposition. In the preparation of this report, circulars of inquiry were sent to 165 towns and 135 replies were received.

"These replies indicated a gradually increasing number of schools closed yearly. The reasons for closing were given as 'financial and educational.' It was found from this that transportation to a central school made it cheaper. * * * In other towns the desire to make strong central schools, and the purpose to give all of the children of the town better advantages, have been the dominant motives to determine consolidation. Results have been satisfactory."

Particular stress should be laid on the latter clause, viz: strong schools, better appliances, better teachers, and better supervision for all the children, for these are the most potent arguments in favor of consolidation.

In a great State like Pennsylvania, with its generous appropriations for school purposes, the financial side of the question is secondary to the great principle of equity, and actual gain in education.

EXTRACTS FROM REPORTS OF STATE AGENTS OF THE BOARD OF EDUCATION IN MASSACHUSETTS.

(State Agent G. T. Fletcher, 1893-94.)

"The exodus of young men and women to the cities of Massachusetts and to the States of the west has left many of the towns poor in people and property. The State should co-operate with the towns in securing for their children educational advantages equal to those possessed by wealthy communities. The school population has diminished in a greater ratio than that of the adults because large

families of children were common formerly, uncommon now, but the number of schools has not been reduced in like proportion to the number of children, and as a result, many schools are too small to be interesting.

"Two things may be regarded as objects to be kept in view—efficiency and economy. Means to secure these ends are comfortable and convenient school houses, necessary appliances, no more schools than are needed, intelligent teaching and skilled superintendence.

"In many towns the schools can be conveniently united by twos and threes, according to size and location. In other towns all the children can be gathered at a center, where a graded school can be established. Only in this way can the best primary instruction be secured and a high school become a possibility."

Mr. Fletcher inserts in this report the following letter from Seymour Rockwell, of Montague, for nearly thirty years a member of the school committee of that town:

"Montague, Dec. 6, 1893.

"Dear Sir: For eighteen years we have had the best attendance from the transported children; no more sickness among them and no accidents. The children like the plan exceedingly.

"We have saved the town at least \$600 a year. All these children now attend school in a fine house at the center, well equipped. The schools are graded. Everybody is converted to the plan. We encountered all the opposition found anywhere, but we asserted our sensible and legal rights and accomplished the work. I see no way to bring up the country schools but to consolidate them, making them worth seeing, then the people will do their duty by visiting them.

"SEYMOUR ROCKWELL."

(Mr. George A. Welton, Agent.)

"In many towns the process (of consolidation) is phenomenal.

"The consolidation * * * is as creditable a part of our school history as their stand in colonial days is the history of the nation."

Another Massachusetts State Agent, Mr. A. W. Edson, discusses the question of public conveyance of pupils as follows:

"There is a decided tendency on the part of intelligent and progressive communities to close the small schools in remote districts and to transport children to the graded schools of the villages, where better classification, better grading and better teaching are the rule. This is done, not so much from an economic standpoint as because of the firm conviction that the children receive greater educational advantages than in the small ungraded schools."

THE ADVANTAGES SUMMED UP IN THIS REPORT.

“1. Better grading of the schools and classification of pupils. Pupils placed where they can work to best advantage, the various subjects of study to be wisely selected and correlated, and more time to be given to recitation.

“2. It affords an opportunity for thorough work in special branches, such as drawing, music and nature study. It also allows enrichment in other lines.

“3. It opens the door to more weeks of schooling and to schools of a higher grade. The people in villages almost invariably lengthen the school year and support a high school for advanced pupils.

“4. It insures the employment and retention of better teachers. Teachers in small ungraded schools are usually of limited education, training or experience. The salaries paid in cities and villages allow a wide range in the selection of teachers.

“5. It makes the work of the specialist and supervisor more effective. Their plans and efforts can all be concentrated into something tangible.

“6. It adds the stimulating influences of large classes, with the resulting enthusiasm and generous rivalry. The discipline and training obtained are invaluable.

“7. It affords the broader companionship and culture that comes from association with large numbers.

“8. It results in a better attendance of pupils, as proved by experience in towns where the plan has been tried.

“9. It leads to better equipment in every way, reference books, charts, apparatus. All these naturally follow a concentration of wealth and effort, and aid in making good schools.

“The large expenditure implied in these better appointments is wise economy, for the cost per pupil is really much less than the cost in small and widely separated schools.”

SUMMARY OF OBJECTIONS.

“1. Depreciation: decreased value of farms in districts where schools are closed.

“2. Dislike to send young children to school far from home, away from the oversight of parents.

“3. Danger to health and morals; children obliged to travel too far in cold or stormy weather; unsuitable conveyance or driver; lack of proper oversight during noon hour.

“4. Insufficient and unsuitable clothing.

“5. Difficulty of securing a proper conveyance on reasonable terms.

“6. Local jealousy; an acknowledgment that some other section of the town has greater advantages.

"7. Natural proneness of some people to object to the removal of any ancient landmark or to any innovation, however worthy the measure or however well received elsewhere."

Some of these objections are wholly frivolous; others are easily disposed of by proper forethought. The conveyance and driver should be carefully scrutinized by a constituted person. The proper clothing of the children is just as obligatory and has just as much force under any other system of schooling. The oversight of the children during the noon hour should be committed to a matron qualified for the office.

Experience has proven that property in towns committed to this plan has risen, and people have been attracted to the vicinity by the educational facilities and the influences growing out from them.

That consolidation through transportation has made progress, is shown by the tabulation of expenses for the last ten years, as given in the sixty-second report of the State Board of Education of Mass.:—

AGGREGATE COST OF CONVEYANCE FOR THE STATE.

| Year. | Amount ex-pended. | Year. | Amount ex-pended. |
|----------------|-------------------|----------------|-------------------|
| 1888-89, | \$22,118 38 | 1893-94, | \$63,617 68 |
| 1889-90, | 24,145 12 | 1894-95, | 76,608 29 |
| 1890-91, | 30,648 68 | 1895-96, | 91,136 11 |
| 1891-92, | 38,726 07 | 1896-97, | 105,317 13 |
| 1892-93, | 50,590 41 | 1897-98, | 123,032 41 |

MORE CONSOLIDATION ASKED FOR.

"As the law has extended the minimum length of the school year to thirty-two weeks, a number of schools will not be able to maintain themselves without the co-operation of the State and town, on account of added expense." In giving these somewhat extended details of the practical bearings of the plan of consolidation and centralization of schools in Massachusetts, the purpose is to bring out the most salient points of the movement from the beginning. Particular attention is called to the fact that the reports quoted from, represent different parts of the State and different industries and conditions, showing that there is great unanimity and agreement all over the State among officials and educators.

In order to reach an element not so prominently represented in these reports an effort was made to obtain an expression of opinion (for publication) from patrons and teachers of elementary grades, and in a few cases of directors or committees throughout Massachusetts.

SUMMARY FROM PRIVATE LETTERS RECEIVED.

Consolidation in the country districts has brought:

1. Better education and more desire for it among children of school age.
2. More interest in schools by patrons.
3. Better teachers and greater sympathy between schools and homes.
4. Better health.

To the question as to subordinate or secondary effects the following replies were received:

1. "Better prepared candidates for the normal schools and colleges, so that in some cases the latter enter the sophomore class and the former can complete the course in from one to three years less time than under the old system.

2. "We think our children have gained in many ways in the last five years. We have a splendid graded school, and those of the graduate pupils who apply for situations as clerks and positions of responsibility are more in demand than such as have not had the training. But we may be exceptionally fortunate in our teachers.

3. "Social influence has been widened and reflects itself in reading circles, clubs for mutual improvement in various directions, specially in the domestic arts. In matters of taste, decoration of homes, association of adults, pupils and teachers in drawing, embroidery, photography and music. Have lectures on various subjects that come within the range of our course of study. Children are encouraged to make collections of leaves of trees, plants and insects. Nothing of this kind was done—it was not possible under the old plan." (The writer of the letter from which the above was taken is located in a town of several thousand inhabitants, noted for its progressive spirit.)

4. "The country itself has materially benefitted.

(a) Roads are better. We couldn't have the school if we didn't improve the roads.

(b) Gardens and grounds are improved, and visible attempts made in utilizing what formerly was waste ground."

With three exceptions, in upwards of fifty letters the plan is approved, sometimes emphatically.

Conveyance in Massachusetts is not fully provided for by the State. The school committee is the judge of the distance or of the configuration of the country or any other question that may arise in rendering aid in this direction. In some cases parents themselves, for a consideration, carry their children—this consideration is settled by the committee—in others, advantage is taken of milk wagons or any public conveyance. Whatever method is pursued, the committee is

to an extent, held responsible for the safety of the child. No discrimination is made in regard to sex or favoritism shown in any way.

Owing to the limitations of the act authorizing transportation and the occasional objections of parents "to do their share" toward the minimizing of difficulties, such as extreme isolation, bad roads, poverty, etc., many perplexities have arisen. These, however, need not be discussed here, as we have to do more particularly with the educational phase of the question. A recent statement and resolutions from the grand jury of Franklin county covers much of this ground and will serve a good purpose in other States where similar problems may arise. (See Appendix.)

CONSOLIDATION IN CONNECTICUT.

The example set by Massachusetts was followed by Connecticut in 1889.

In 1893, the towns of the State were authorized to appropriate and expend money to convey children to and from the public schools. (The text of the law is given in Appendix.)

The substance of the law relating to Town Management (the term given to express consolidation) is:

1. *The town for school purposes becomes one district.* The existing district lines become lines of attendance, and may be changed to suit the exigencies of school attendance.
2. *Town officers, called the town committee, manage the school.*
3. School houses become the property of the town.
4. *The expense of schools are paid directly by the town instead of indirectly through the districts.*
5. *The business pertaining to schools is transcribed in town meeting.*

It should be noted:

1. *Schools are not abolished nor united.* Under the general law which applies to all towns, the school visitors can close any school and send the scholars to adjoining districts.
2. Schools are managed just as roads, bridges and the poor are managed—by the town.
6. *The town does not assume district debts.* Districts can maintain their organization for the purpose of paying debts, or the town can by vote assume the debts, but the vote to consolidate does not carry either plan.

TOWN MANAGEMENT IS ECONOMICAL.

"The towns acting under this system, spend less for each scholar in attendance than the average for the State. It cannot be said that school expenses will be less, but it can be confidently asserted that the same sum will produce better results. The object of the school system is to educate the most children in the best manner,

in the shortest time, and the town management is the most economical plan of working to this end. Wages of teachers can conform to skill and experience. Repairs can be made so as to prevent waste. The schools managed as town institutions are of sufficient importance to secure interested care. A current of vitality is sent through every part of the educational machine; a new bond is formed and isolation ceases to confine and crush the education of children. There is co-ordination, a working together of all the parts to a fit end."

(The above is taken from Sec. Hiens' condensed report—Town Management of Schools.)

Attention is called to the completeness of the law regulating the consolidation of schools and transportation of children in Connecticut. Under the twenty-seven sections are treated every bearing that can come into the situation, especially the manner of holding elections on the question. Every possible point seems to have been considered, so that the liberty of the individual or the independence of a community should not be trespassed upon. As regard transportation, the authority was largely permissive. * * * * The change was found to work well and also a gain economically.

Taking the town of Enfield as an illustration, the following schools were abolished:

No. 12, with an average attendance for the previous four years of eleven scholars, cost the town \$267.25 in 1893.

No. 10, with an average attendance for four years of seven scholars, cost \$278.15 in 1893.

No. 9, average attendance for four years of thirteen scholars, cost \$277.96 in 1893.

No. 6, average attendance for four years of thirteen scholars, cost \$338.00 in 1893.

No. 11, average attendance for four years of six scholars, cost \$253.15.

Here were six schools, with an aggregate average attendance of sixty-two scholars, costing the town \$1,689.55 for the school year. To transport these scholars for the year 1894, it cost \$1,045.00, a net gain of \$644.55. This saving in money is an item well worth considering, but more important still is the fact, that we have placed these scholars in schools where the advantages in all ways are superior to their old schools.

The summary, as regards conveyance of children, taken from a tabulated statement in the Report of Board of Education for 1900, is of interest:

| | |
|---|-------------|
| 1. The number of schools closed, | 85 |
| 2. The number of scholars conveyed, | 773 |
| 3. The expense, | \$10,752 38 |

In reply to the question if the plan was satisfactory, the table shows:

| | |
|---|----|
| Not replying directly, | 13 |
| Satisfactory, | 21 |
| Satisfactory to "most," or "generally," | 12 |
| Not satisfactory, | 3 |

In reply to inquiry whether beneficial to schools:

| | |
|------------------------------|----|
| Not replying directly, | 15 |
| Beneficial, | 33 |
| Not beneficial, | 1 |

The financial arrangements include:

Payments to parents by town, dependent upon distance or attendance.

Payment of car fare (or other public conveyance) by town.

Town hires horse and carriage by day.

Town owns vehicle and hires driver.

Town contracts with individuals by day or year.

Facts for the two years reported:

| Year. | Number of towns. | Number of schools closed. | Number of children conveyed. | Expenses. |
|---------------|------------------|---------------------------|------------------------------|-------------|
| 1897-8, | 44 | 84 | 849 | \$11,416 25 |
| 1898-9, | 49 | 85 | 773 | 10,752 25 |

CONSOLIDATION IN NEW HAMPSHIRE.

There is probably not another State so beset with difficulties as regards public school education, as the sturdy, rock-ribbed little State of New Hampshire, the paradise of the tourist and of the manufacturer. To the traveler from the southern and middle States accustomed to the softer outlines of his native landscape, the perpetually recurring query is: How are these dwellers amid Nature's fastnesses reached for purposes of education and social culture? The towering hills, overhanging cliffs, streams, lakes and forests which give the State its well-deserved title of "The Switzerland of America," would seem to debar the communities sheltered among them from ordinary rules of access and intercourse. Yet, from amid these



recesses of valley and hill have come men and women noted for the highest qualities of the human mind.

Here the consolidation of the outlying schools, reduced in numbers by the city-ward tendency, became a self-evident necessity. Several causes combined to make it the only available resource:

1. Inaccessibility and vigorous climatic conditions, making long distances for children an impossibility.

2. The lack of trained teachers, who naturally preferred the higher salaries and more genial surroundings of greater centers of population.

3. The constant demand for labor in the numerous factories and business enterprises, so that the children of the poor were put to work in the face of humanitarian protest and often of legislative action. This subject, however, does not come within the range of this article except as incidentally showing how consolidation, compulsory school attendance and the necessary supervision growing out of the case, go hand in hand toward removing evils sometimes thought to be beyond remedy.

(From report and private communication from Superintendent of Education of New Hampshire:)

"The city of Dover contains about 2,000 children. Formerly had ten rural schools, from one and one-half to five miles from center. Six of these have been closed and children are transported daily to and from city graded schools, at an expense to the city of about \$1,700 annually. The city thus saves about \$1.000 per annum.

"The small children are placed in the same building, and a matron employed for a nominal sum to take charge of them during the noon intermission, while the teacher is absent."

Results:—

1. Economy.
2. Better teachers.
3. Better supervision.
4. Greater regularity of attendance and greater punctuality.
5. Better educational spirit in and out of the school.
6. (On the community within limits affected by transportation)—
Better roads, literary organization, local enterprises.

The New Hampshire State law allows 25 per cent. of school money to be used for conveying children to and from school. The expenditures vary from 1 to 24 per cent. Tradition, habit and natural conservatism cause some opposition to the plan. Some towns pay the children, living at a certain distance from school, a few cents per mile, and leave individuals to determine the manner of conveyance for themselves, governing the payment by the attendance record of the school registers.

(From the Report of Public Instruction of New Hampshire:)

"In three given rural schools, the aggregate enrolment is fifteen and the three teachers are receiving salaries at the rate of \$906.00 per year, or an average of \$66.40 per pupil on the total enrolment. The other expenses paid by the school committee for the three schools brings up the amount to \$1,000.00, or an average annual cost of \$73.33 for each of these fifteen children, not one of whom is of a grade equal to the higher grammar school classes."

It may be seen how the State was literally forced by existing conditions, which possibly could not be paralleled in any other State, to try some other way of bringing the State appropriation to the child in profitable form.

The law in New Hampshire does not make it obligatory upon the committee to convey any children to school. It is permissive only. In all the cited cases the people are better satisfied than they would be with an independent school, under the former system.

The same system as presented in these three representative States prevails in Vermont, Maine and Rhode Island. In each one, account has been taken in necessary legislation of many varying circumstances in what may be termed the material environment of the population, such as pursuits and industries, number of wage earners and other considerations, which will readily occur to the rational inquirer. Such considerations affect most, that part of the system which falls under the necessity of the conveyance of the children.

In a number of other States attention has been given to the same method of counteracting, to some extent, the outflow of the country population, and the movement is progressing more or less rapidly in parts of New York and Ohio. -The experiment—if experiment it may still be called, since it has become an acknowledged success—now going on in Northwestern Ohio is of great interest, as to some minds, the more recent movement might have greater weight than those of an earlier period.

(Extracts from the report of Mr. L. E. Morrison, Superintendent, of Kingsville, Ashtabula county, for 1895-96:)

"The new school system, which is known as the Kingsville system of education, has been formulated and introduced with marked success.

"By this system the pupils of the sub-districts are given the same advantages for obtaining an education as the village pupils, and this result has been obtained without working any disadvantage to the village pupils, for we have been enabled to open a new room and supply another teacher in the village schools, thus reducing the number of grades in each room and giving all the pupils better school advantages.

"The pupils of the sub-districts have not only been given the advantage of more extended associations and larger classes with which to recite, but they have also the advantages of a school where the teacher has fewer recitations and can give more time and attention to each recitation; thus, the pupil's progress is much more rapid than is possible in a school where there are three times as many classes and one-sixth the number of pupils. * * * * It is a pleasure to note that the attendance in the sub-districts that have availed themselves of the new system, has increased from 50 to 150 per cent. in some cases, and a larger increase in all cases. The daily attendance in the same sub-districts has increased from 50 or 60 per cent. to 90 or 95 per cent., thus increasing greatly the returns from the school fund invested. This has been accomplished at a saving of more than one thousand dollars to the taxpayers in the three years.

"Since the schools were centralized the incidental expenses have decreased from \$800 to \$1,100 per year, to from \$400 to \$600 per year. All other expenses have also decreased, which may be seen from the following table:

EXPENDITURES OF THE BOARD OF EDUCATION OF KINGSVILLE, OHIO.

| | |
|------------------------------|-------------|
| 1889-90, | \$3,248 05 |
| 1890-91, | 3,716 23 |
| 1891-92, | 3,183 54 |
| <hr/> | |
| Total for three years, | \$10,147 82 |
| <hr/> | |
| 1892-93, | \$3,153 44 |
| 1893-94, | 3,072 73 |
| 1894-95, | 2,831 21 |
| <hr/> | |
| Total for three years, | \$9,059 37 |
| <hr/> | |

"In giving these figures we have deducted the \$600, with interest, which was borrowed in 1889, and has been paid during the past three years."

(Extracts from the report of Mr. J. R. Adams, Superintendent of Madison township, Lake county, O.:)

"Acting upon my suggestion, the board, having in view only the best interest of the children for whom our schools exist, voted to consolidate three sub-districts at North Madison, No. 16 and No. 3 with No. 12, and also three at Unionville, No. 10 and No. 11 with No. 4, arrangements being made with the school board of Harpersfield township whereby the pupils of sub-district No. 1 of said township might attend the school of Unionville upon payment by the Board

of Education of Harpersfield to the Board of Madison township the sum of \$140 tuition.

"Our school opened with two teachers and with an attendance of ninety-three pupils. From No. 10, in which sub-district there had been the previous year an attendance of only ten pupils, there came eighteen; from No. 11, in which there had been an attendance of only eight pupils, there came eighteen, and from Harpersfield district, in which there had been an attendance of fourteen pupils, there came twenty-three. The number of pupils enrolled in this school was 107, with an average attendance of seventy-three."

Results:—

1. A much larger per cent. of enumerated pupils enrolled.
2. No tardiness among the transported pupils.
3. Irregular attendance reduced, the per cent. of attendance of transported pupils from two sub-districts being each 94 per cent., the highest in the township.
4. Pupils can be better classified and graded.
5. No wet feet or clothing, nor colds resulting therefrom.
6. No quarreling, improper language, or improper conduct on the way to and from school.
7. Pupils under the care of responsible persons from the time they leave home in the morning until they return at night.
8. Pupils can have the advantage of better school rooms, better heated, better ventilated and better supplied with apparatus, etc.
9. Pupils have the advantage of that interest, enthusiasm and confidence which large classes always bring.
10. Better teachers can be employed; hence, better schools.
11. The plan insures more thorough and complete supervision.
12. It is more economical. Under the new plan the cost of tuition per pupil, on the basis of total enrolment, has been reduced from \$16 to \$10.48; on the basis of average daily attendance, from \$26.66 to \$16.07. This statement is for the pupils in said sub-districts, Nos. 10 and 11.
13. It is a step in the direction toward whatever advantages a well-graded and well-classified school of three or four teachers, has over a school of one teacher with five to eight grades, and with about as much time for each recitation as is needed to properly assign the next lesson.

Since this report was made, consolidated schools have been established at two other points in Madison, at one place four schools, at the other three, each with two teachers. Five teams are employed to transport pupils, at a cost of about \$1 a day for each team. Every conveyance carries about eighteen pupils. There is no trouble in transporting the pupils, even the youngest, three and one-half miles, which is the greatest distance. In 1895, there were eighteen schools

in Madison, with an average of 260; this year there are ten schools, with an average that will reach over 300. The total expense will be about the same in this township as under the old plan, but the cost per pupil will be much less.

The following advertisement illustrates the care taken in Madison township to secure suitable transportation for school children.

NOTICE TO BIDDERS.

For Transportation of Pupils of the Township Schools.

Bids for the transportation of pupils of the Madison township schools over the following routes will be received at the office of the township clerk until Friday, July 24 at 12 M.:

Route A—Beginning at County Line, on the North Ridge road and running west on said road to school, in District No. 12.

Route B—Beginning on Middle Ridge road, at residence of N. Badger, running thence west on said road to the residence of Rev. J. Sandford, thence north to school house, in District No. 6.

Route D—Beginning at Perry Line, on River road, and running thence east on said road to school house in District No. 6.

(Route E and Route F, etc., similary defined.)

All whose bids are accepted will be required to sign a contract by which they agree:

1. To furnish a suitable vehicle, with sufficient seating capacity, to convey all the pupils properly belonging to their route, and acceptable to the committee on transportation.

2. To furnish all necessary robes, blankets, etc., to keep the children comfortable, and in severe weather the conveyance must be properly heated by oil stoves or soap stones.

3. To provide a good and reliable team of horses and a driver who is trustworthy, and who shall have control of all the pupils while under his charge, and shall be responsible for their conduct. Said driver and team to be acceptable to said committee on transportation.

4. To deliver the pupils at their respective stations not earlier than 8.30 A. M. nor later than 8.50 A. M., and to leave at 4.05 P. M.

Each contractor shall give bond for the faithful discharge of his contract in the sum of \$100, with sureties approved by the president and clerk of the board.

The committee reserves the right to reject any and all bids.

But a still more striking example of what consolidation is accomplishing in Northeastern Ohio is found in the schools of Gustavus township, Trumbull county, and a visit to this place will amply repay the interested inquirer, not only as to general methods in rural school work, but will make a convert of the most doubtful to the plan.

Public attention was called to the experiment progressing in Gustavus township by an article which appeared in the "National Stockman and Farmer," of February 9th, 1899, over the name of J. M. Braden. The article was a concise statement of the progress and outlook of the schools in which the new system was being tried, and impressed even the casual reader that here was a remedy for some present ills in county education. Notwithstanding the fact that the article has been already widely quoted in addresses and school reports in this and other States, no apology is needed for repeating some of the statements found in it.

Prefacing his main subject with some forcible truths as to "the failure of the rural districts to keep pace with the rest of the country," the writer goes on to say:

"Gustavus township has nine sub-districts and one fractional sub-district. For over twenty years there has been a varying attendance of pupils per district, ranging from five to thirty, with occasionally a full term of school taught with less than five pupils enrolled in some districts. The expense of running the schools and keeping buildings repaired, has been about the same as when there was a full attendance in all districts. * * *

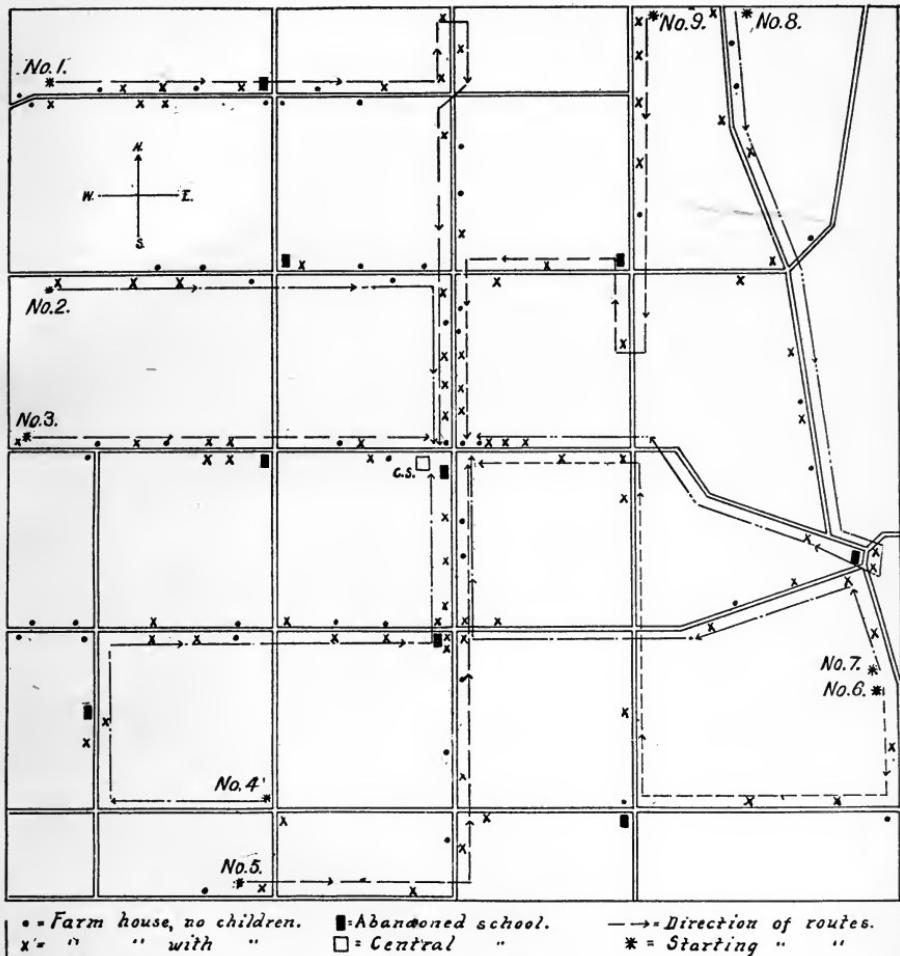
"So favorable have been the results of centralization in other counties, that last winter our legislature extended the privilege to all by revising 3921 of our school laws, making it possible for the boards of education to bring the pupils of a township together at some central point.

"After the legislature revised the law, our board decided to make a practical test of the new system and to that end passed a resolution to issue bonds to the amount of three thousand dollars for a new school building and went before the people at the spring election, when the measure carried.

"After the spring elections, the new board employed an architect, settled upon plans for a building, issued bonds and purchased a site. (The building put up is hereafter described.)

"The sub-districts were suspended and the board divided the township into routes for conveying the pupils. These routes were let to the lowest bidder, the successful bidder being required to give bond for the fulfilling of his contract, and also for good conduct of himself and of the pupils carried, and further, to provide good, comfortable, well-covered vans in which to carry the children.

"Also to furnish blankets and robes for the same. The vans carry, on the average, about twenty pupils each. The children step into the vans at the roadside and are set down upon the school grounds. There is no tramping through the mud and snow. The longest distance traveled by any of the vans is about six miles and the shortest about three miles. The average cost per van is \$1.09 (cost has been



SCALE 1 INCH TO THE MILE.

Diagram of Gustavus Township, Trumbull County, Ohio, Showing Transportation Routes. The routes pay as follows:

| ROUTE. | AMOUNT. | MILES TRAVELED. |
|--------------|----------------------|--------------------|
| No. 1, | \$1 55 per day,..... | 5 miles. |
| No. 2, | 98 per day,..... | 3½ miles. |
| No. 3, | 69 per day,..... | 2½ miles. |
| No. 4, | 1 50 per day, | 5 miles. |
| No. 5, | 1 25 per day, | 3¾ miles. |
| No. 6, | 1 45 per day, | 4½ miles. |
| No. 7, | 1 40 per day,..... | 4½ miles. |
| No. 8, | 1 48 per day,..... | 5 miles. |
| No. 9, | 95 per day, | 3½ miles. |



changed last year). Our school has been in session several months and we are pleased with the results.

"But there are far better results to come, when we remember that with the centralizing of our schools will come a regularly graded school, with all modern facilities for the advancement of our youth, until our schools will stand upon an equal footing with the high schools of our cities. The poor man who has only been able to send his children to the district schools, will have the pleasure of seeing his children securing the best education that can be provided by the township."

Following the interest created by the above article, which presented the subject in the most forcible and practical light, in a State where rural conditions are similar to Pennsylvania, a visit for personal inspection of the schools was made November 8th of this year.

RESULTS OF INSPECTION.

Gustavus township furnishes possibly the most satisfactory example of consolidation in a wholly rural district that can be found anywhere. The school is well organized, the outward bearings of the question are open to examination, and an insight is obtained that no amount of theoretical speculation could give. There is also the pleasure of observing the interest and enthusiasm that can be brought to pervade a genuine rural school, conducted on a common sense basis, as in this case, giving a reflex of the sincere and wholesome uplift of a country community. To an unaccustomed eye, it was a spectacle worth going far to see.

The morning was cold and stormy and it was impossible not to make involuntary comparison with other school children in the outlying districts of Pennsylvania making their way along muddy roads to school, possibly to have a shivering wait for the teacher to open the door.

The spirit manifested in the regular school work reflects great credit upon the teachers, who seem to have caught something of the new idea in teaching, as part of the new system. Not only this, but the social and home life of the vicinity has been touched by the new order of things. The value of the personal equation in school work was never more fully illustrated than in the school of Gustavus. The whole township is centralized. It is wholly a rural township, the little town of Gustavus at the center being only a small cluster of houses. A frame building, with four rooms, has been erected at a cost of \$3,000.00. Four teachers are employed. The superintendent receives \$80.00 per month; the teachers in elementary grades average \$28.33 per month. Nine vans convey the pupils to and from the school.

For the purpose of keeping up the present system of running the schools and paying off the school-house bonds, a levy is made of nine mills on a valuation of \$370,000.00.

Besides the teaching force, the school has one janitor, who attends to the care and heating of the building. His salary is \$12.50. Reference to the tabulated report (see page 50), kindly prepared by Supt. C. L. Harshman, will give full information as to cost, attendance and progress of the school since its establishment in 1897. The van drivers are under bonds of \$200 for good conduct, comfort and safety of pupils, on the route to and from school, punctuality and regularity in transit.

To insure the proper discharge of these duties the board of directors keep back one-half month's pay in addition to taking bonds.

SYSTEM OF CONVEYANCE POPULAR.

Men in Gustavus township are anxious to build vans and to bid on contracts to convey pupils. No trouble has arisen in any way. The vans cost from sixty to eighty dollars and are as comfortable as they can be made. The utmost regularity is required in delivering the children. Four minutes from the time the bell was tapped for dismissal the children were gone in the vans. Order and precision of movement akin to that of a military training school was observable. No confusion, no noise or scurrying for precedence in order of going or for seats in the vans.

THE SCHOOL FROM ITS EDUCATIONAL SIDE.

The school is divided (see report) into four grades. High school, grammar, intermediate and primary.

STUDIES PURSUED IN HIGH SCHOOL.

| Freshman. | Sophomore. | Junior. | Senior. |
|---|---|--|---|
| Arithmetic. Language. History. Physiology. | History. Physical Geography. Rhetoric. Civics. Algebra. | Algebra. Geometry, Plane. Latin Grammar and Reader (32 weeks.) Literature. | Physics. Latin. Caesar, 4 books, Prose Comp., (more added this year). Geometry, Solid. Botany. Common branches re- viewed. |

GRAMMAR DEPARTMENT.

| D. Grammar. | C. Grammar—Advanced Work. | B. Grammar—Advanced Work. | B. Grammar—Advanced Work. |
|--|--|--|---|
| Reading. Spelling. Writing. Arithmetic. Language. Physiology and Nature Work. Geography. | Reading. Spelling. Writing. Arithmetic. Language. Physiology and Nature Work. Geography. | Reading. Spelling. Writing. Arithmetic. Language. Physiology. Geography. History. | Reading. Spelling. Writing. Arithmetic. Language. Geography, Adv. History. Physiology. Nature Work—Review of Special Courses. |

The primary course leading to the higher grades is very thorough and covers four years. (See Appendix.)

SPECIAL COURSES OF STUDY.

Oral geography for third year pupils: From directions, compass—location of objects, definitions, natural objects, etc.—to State officers, government, laws, etc.

Physiology in all grades. From laws of health, personal habits, cleanliness, etc., to effects of alcohol and narcotics, with special readings on subjects.

Review work in seventh year from nervous system to purity of life and strength of purpose.

Nature work for all grades.

Modifications to suit age and attainments of pupils.

Special readings throughout above courses.

In regard to report, it should be noted: The annual enrolment was larger under the old system, but the daily attendance was less.

Very often in good weather the little children from four to six were allowed to attend school. This would bring up the total enrolment and also add on daily attendance. The per centage of attendance on total enrolment has increased one-seventh, or 15 per cent.

Steam heat; cost for fuel last year, \$50.00.

Of the eight girls of graduating class, five got county certificates and are teaching. Gustavus sends sick children home at board's expense. This has occurred four times in three years.

MAIL DELIVERY.

The delivering of mail for the whole district, while the term of school lasts, is provided for by the vans. Before school is dismissed the principal sends one of the pupils to the post-office for the mail.

and it is distributed to each driver, who delivers it along his route. This is a great convenience to the people of the district. The drivers also bring in the mail in the morning.

GAINS UNDER THE SYSTEM.

Better health.

Less wear and tear of clothing, shoes, etc.

Better conduct, no profanity or quarreling.

Statement of Supt. Harshman is as follows:

"Only system to keep boys in schools. Under old system, boys drop out before reaching higher grades. The enthusiasm and interest have so increased, together with the more extended course of study, that boys desire to reap full benefit."

REPORT OF SCHOOLS OF GUSTAVUS TOWNSHIP, TRUMBULL COUNTY, OHIO, FOR THE YEARS 1897-1900, ALSO AN ESTIMATE OF 1901, BASED ON FIRST TWO MONTHS OF YEAR."

| Public Schools of Gustavus Township, Trumbull Co., Ohio. | Old Plan. | | New Plan. | | |
|---|-----------|---------|-----------|---------|---------|
| | 1897. | 1898. | 1899. | 1900. | 1901. |
| Statistics for the School Years ending August 31,... | | | | | |
| Total enrolment in all schools, | 210 | 211 | 193 | 186 | *180 |
| Average daily attendance in all schools, | 128 | 139 | 144 | 144 | *145 |
| Per cent. of attendance on total enrolment, | 66 | 66 | 75 | 77 | *80 |
| Number teachers employed in high school, | 1 | 2 | 1 | 1 | 1 |
| Number teachers employed elementary schools,.... | 9 | 7 | 3 | 3 | 3 |
| Total number teachers employed in all schools,.... | 10 | 9 | 4 | 4 | 4 |
| Average wages paid in high school, | \$50.00 | \$50.00 | \$62.50 | \$80.00 | \$80.00 |
| Average wages paid in elementary schools, | \$24.00 | \$25.00 | \$25.00 | \$27.50 | \$28.33 |
| Number vans for transporting pupils, | 0 | 12 | 8 | 9 | 9 |
| Total cost of schools, including bonded debt and interest paid, | \$2,975 | \$2,955 | \$3,325 | \$3,550 | \$3,550 |
| Bonded debt and interest paid, | 0 | 0 | \$450 | \$435 | \$420 |
| Net cost of schools, | \$2,975 | \$2,955 | \$2,875 | \$3,115 | \$3,130 |
| Average cost per pupil on daily attendance, | \$21+ | \$21 | \$20— | \$21 | *\$21 |
| Number months of school in high school, | 6 | 6 | 8 | 8 | 8 |
| Number months of school in elementary schools,.. | 8 | 8 | 8 | 8 | 8 |

* Estimated on first two months of year.

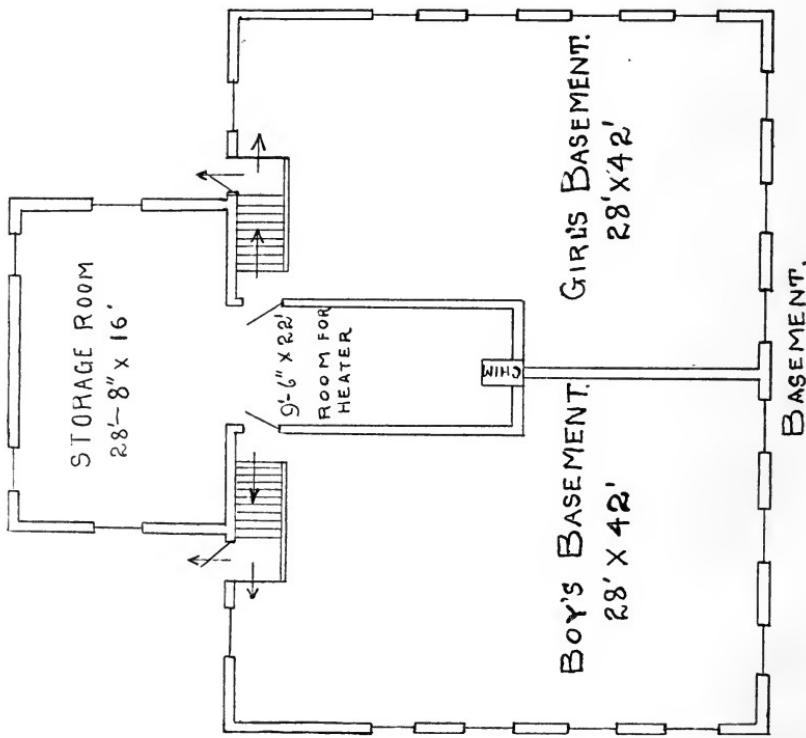
† Two sub-districts were hauled to adjoining sub-districts.

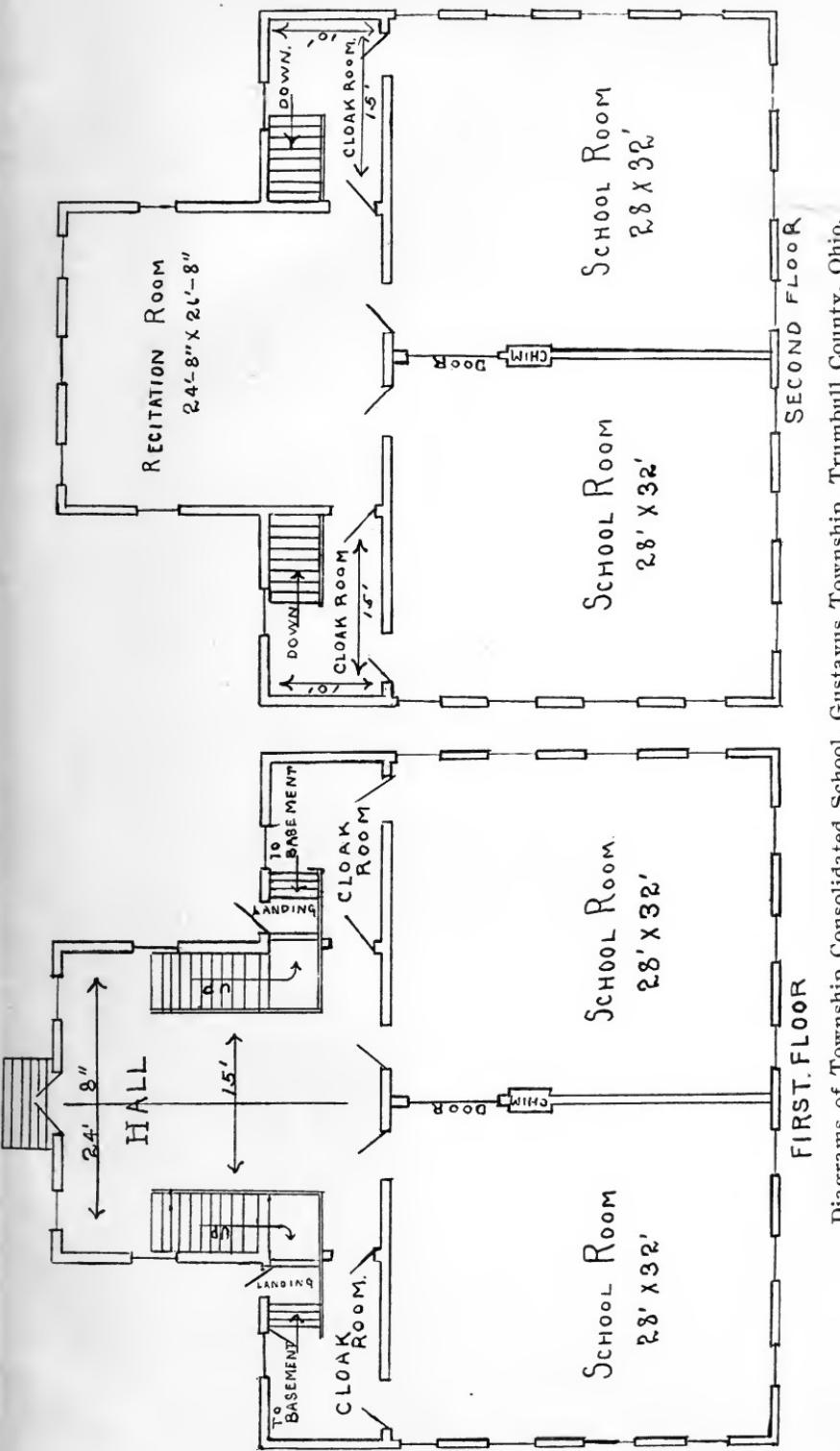
‡ Under new plan two more months of high school.

An objectionable feature of the present method of giving out contracts for conveying of children, is the lack of specifying certain contingencies that might arise. Where a person moves into a neighborhood after contract is given, locating beyond a point limit specified, the driver can refuse to go out of his road without extra compensation or beyond the prescribed limits, and the child is thus left to the alternative of going to meet the van at some convenient point or the board is forced to provide in some way for its transfer. There should be in such cases a special clause provided in contracts.



Scale 16 to 1"





Diagrams of Township Consolidated School, Gustavus Township, Trumbull County, Ohio.





As to cost of building as on plans (page --) the estimate is \$3,500.00. This would give a building large enough to accommodate 180 to 200, or even 220 pupils, with four school rooms and one recitation room, four large cloak rooms, extra wide stairs, large entrance hall, two large basements and heater and storage rooms, all well lighted; two outside and two inside entrances to basement; girls' and boys' basement separate.

EXTENSION OF CONSOLIDATION.

Consolidation has been found so satisfactory in Gustavus township, that Greene township, adjoining it on the west, has centralized and built a central school building at a cost of \$7,000.00, in which, school is now being held.

Wayne township, Ashtabula county, on the north of Gustavus, has voted for centralization, and they are now building a school to cost \$5,000.00. Kinsman township, on the east, has voted for centralization and will build next summer.

The State Superintendent of Illinois and the County Superintendent of Winnebago county, Ill., visited the schools of Gustavus in October of the present year. During their visit, the districts operating under the centralized system, were thoroughly investigated and the conclusion arrived at was that "this is what people in the rural districts have been waiting for."

Supt. Bayliss, of Illinois, says, among other advantages, "Socially, the advantage is very great. It extends the acquaintance of the children and gives them the increased interest and enthusiasm and confidence which comes from numbers, unites the people of the township and equalizes opportunities." He concludes: "The Ohio plan can certainly be introduced to advantage in many Illinois townships" Wisconsin and Iowa are at work on it. Inquiries have also come from Kansas, all showing that people are waking up to the necessity of doing something more than has been done for rural education.

The board of education of Nelson township, Portage county, Ohio, appointed a committee to visit Gustavus for the purpose of investigating the plan of school centralization. In order to get an impartial report, the committee was made up so as to represent both sides of the question. In the course of this investigation, a canvass of the township was made for the purpose of getting public opinion on the subject. Of 54 instances interviewed, 43 were in favor of the system, 4 indifferent and 7 against. Of the 7 against, 6 were without children in attendance.

Many circumstances combine to make Gustavus a typical example of successful co-operation. Courteous officials, an enthusiastic and

magnetic spirit at the head, thoroughly trained teachers as assistants and an appreciative community.

| Valuation and Tax Rate of Gustavus and Green Townships. | Tax Rate for School Purposes. |
|---|-------------------------------|
| Gustavus valuation, | \$373,000 |
| Greene valuation, | 361,000 |

Rate, 9 mills on the dollar.
Rate, 12 mills on the dollar.

The State appropriation is about \$400 for each township.

Gustavus pays \$3,000, in the annual payments and interest, and Greene \$6,000 in six, which explains Greene's higher rate of tax.

EXPERIMENTS MADE IN CONSOLIDATION IN PENNSYLVANIA.

Some experiments in the consolidation of schools have been made in Pennsylvania. They have not been true tests, however, of the practical value of the system, being partial and tentative in character. The mere joining together or uniting of two or more schools for convenience or other reasons of a temporary kind, is not consolidation in the true sense of the word. Such schools as unite in this informal manner can as readily disunite, and the good that has been gained will speedily be lost or dissipated by a return to the old system. A school of this kind, though it may answer a good purpose for the time being, is not a permanent part of the school machinery of the district in which it exists. It is merely an expedient. For this reason, the people who would most benefit from it are distrustful of its efficiency and, in many cases, actively oppose it.

It is looked upon as an innovation, or one of the many "fads" foisted upon the rural school in modern times. Two questions from different standpoints convey the impression the question makes on the minds of some. The first was, "will there be a whole 'system' of new books to get?" The other, "would the child be taken away from home altogether?" It is hard to think "such things can be"—in Pennsylvania.

It is really the simplest of all ways of educating by public instruction. Less machinery is connected with it than any other, and, consequently, fewer complications in the way of appointing teachers and fixing salaries. What is wanted is:

DEFINITE LEGISLATION.

The statement has frequently been made that Pennsylvania has "law enough to cover the case," in consolidation. This is not quite

true, or rather it may be said that the legislation provided falls short of the case. Pennsylvania has the township system; that is one step. The high school act of June 28th, 1895, is another step—in intention. (See Appendix.)

If the provisions of this act were fully carried out, it would still fall short of providing a higher education for the rural districts, for the reason that in very few townships could the necessary advance be made in order to reach the provisions of that act. Besides, transportation of the children is not included in the act. The course of study named in this act is not entirely suited to the wants of the rural districts, broadened as they have been by industrial and commercial conditions and by the more exacting requirements of the higher institutions of learning. Thus, the high school act becomes in effect a dead letter.

What the rural school needs is provision for a course of study at once flexible and comprehensive and adapted to the wants of the country, for the great class with agricultural instincts and who, with better knowledge, would improve their surroundings, and for the class that seeks other fields for enterprise. In the great majority of the rural districts of our State, this great class have no chance for any advanced education in applied science, in civil engineering, in mechanical engineering, in mining engineering and kindred departments, and very little chance in any other, and if the elementary course does not lead up to it, they never can attain their desires of a higher education, yet the experience of the world proves that from these ranks, disciplined by poverty and invigorated by contact with nature from early youth, comes the greatest part of the genius and talent and energy of the world. For such as these there is no legislation in Pennsylvania, the towns and cities providing it for themselves.

TRANSPORTATION OF PUPILS.

Under another act (June 22, 1897), partial provision is made for the transportation of school children to the public schools of the district in which they reside, or to the schools of neighboring districts. (See Appendix.)

Section 1 "permits the school directors, by an affirmative vote of the majority, to provide transportation for the children at the expense of their respective districts to and from any school in the district in which the children have their residence, or of neighboring districts: Provided, That this act shall apply only to the pupils of schools which have been closed by reason of small attendance, and, Further, That it shall apply only to pupils having a greater distance to travel or are placed at greater inconvenience by such closing, and

Further, That the cost of transportation per pupil shall not exceed the cost of maintaining per pupil the schools thus closed."

The limitations and divisions of this act, as it stands, open the way to differences of opinion over the question as to the precise meaning:

1. Of what shall constitute a small enough number of children in attendance in order to make obligatory the closing of a school.

2. As to what is the exact distance which makes this clause applicable to a given case.

In regard to a similar ambiguity as to what a "reasonable distance is," Secretary Hill has this to say: "Little children should not be made to walk over a mile, although older children of grammar school age, may walk a mile and a half, or even more.

"If, for little children the mile lies through lonely, unfrequented, wooded or difficult roads, it would be too great or too dangerous a distance for them to walk.

"The State Board of Education in Massachusetts is given no authority to decide what a reasonable walking distance is. Whatever the school committee (board of directors) decides to regard as a reasonable distance for school children to walk, that is the distance they must walk."

In a lengthy analysis of the law of Massachusetts relating to transportation of children, Secretary Hill carefully defines the statutory meaning of "support," as it is variously used to include or exclude the right by the school committee to expend money for this purpose. He concludes by saying: "It needs to be stated once more, however, that whatever questions may arise as to the authority of the school committee to expend money for conveyance, such questions the committee must decide for itself, in the light of such facts and principles as are at its disposal." (Showing that doubt has not been resolved.) Comparison of the laws alluded to above with that of Ohio on the same point shows the latter has simplified the question so that little difficulty can arise.

In New Hampshire, where children or parents are in some cases allowed a certain sum per mile in payment of transportation, "the money is frequently spent for other purposes, and the children walk." The law of this State provides that town school boards may use a portion of the school money, not exceeding twenty-five per cent., for conveying children to and from schools.

In Vermont, a late law is to the effect that, upon the application of ten taxpayers in any town, the school directors shall furnish transportation to any and all children residing one and a half miles or more from any school, but the aggregate cost shall not exceed twenty-five per cent. of all the school moneys.

The New York law of 1896 provides for a tax for conveyance of pupils by vote of the inhabitants.

A law of 1894 in New Jersey and one of 1897 in Nebraska provides for transportation of pupils.

A provision of the school law of Connecticut authorizes town school boards to unite schools "when, in their judgment, the number of pupils is so small that the maintenance of a separate school is inexpedient," and provide transportation for the pupils.

The most striking instance of successful consolidation produced and the only way of satisfying doubts and preventing disputes among patrons of a school where this system comes into use, is in the *consolidation and centralization of the whole township*. The larger schools, as the smaller, are equalized. The school becomes a central point of interest for all the people of the township. There are good, bad and indifferent pupils, circumstances, degrees of intelligence and other factors from all parts brought together, treated by the same methods, taught by the same teachers, under the same humanizing and elevating influences of a school representing all the elements of a given district.

Consolidation, to be successful, must be made to mean centralization and transportation. The boundaries of the township are the natural limits of such a measure, but under careful and well defined restrictions, adjacent schools from other districts could be united under one central school.

The school should not consist of less than three teachers, the number above this depending on circumstances, over which the board of directors should have full control.

The drafting of a course of study suited to the requirements of the farm and of the general conditions of rural life—for the class that stays and the class that goes—should be delegated to a committee of intelligent and skilful educators, appointed for the purpose by the Governor of the State.

The functions of the State Medical Board are not more important to the welfare of the public than such a committee would represent.

Consolidation should be universal in all rural districts where facilities for higher education do not exist. There should be no partition of sections, or districts in townships. This is the easiest, cheapest, the simplest way to consolidate the schools. The twentieth century has this question to meet and solve.

NECESSARY LEGISLATION.

An act could be framed to meet the requirements, either by amending or supplementing existing acts, or by drawing up a new one on wholly new bases. Such an act should be so clear that no misunderstanding could arise. It should provide for the transportation of all the children of a township of school age without defining limits.

as in bad weather or in the case of young and delicate children, even a small distance would make attendance difficult, and if transportation is provided for the more distant who, in some cases are more rugged, and an additional nearby pupil would add little to the duties of the drivers and jealousies and bickerings would be avoided thereby. The act should exactly define the terms and conditions of the extent and amount of consolidation contemplated.

The act should provide for the debts and disposition of the school houses abolished, and for the building of new ones, if such are required, and for the purchase of more school ground. The act should incorporate with its provisions the new course of study and for all special features connected with it differing from the features of the present law. The act should provide for the submission of the question to the vote of the people of the township so desiring, method of voting, time and conditions relating to ballots cast being distinctly named.

Such an act should go before the people at the spring elections.

RECAPITULATION.

1. Consolidation, centralization and transportation go together.
 2. Partial consolidation in a township and limited transportation do little toward providing a remedy for the educational needs of the rural districts. The whole township should be centralized—either at one or more points, according to number of children of school age or of extent of area.
 3. Consolidation in the rural districts would bring:
 - (a) Concentration of resources.
 - (b) Extension of education.
 - (c) Greater attendance.
 - (d) Greater educational spirit in children and adults.
 - (e) Fit the class that goes for higher positions and the class that stays for uplifting rural interests.
 4. Would have a reflective influence in health, in morals, in intellectual achievement, in material progress.
-

THE SCHOOL GARDEN AN ADJUNCT OF RURAL EDUCATION.

There is probably no source of Nature Study in its elementary forms, at once so accessible and attractive, as the study of plants by means of a garden on the school grounds. In the country, where

open space could be easily had and water and fertilizing material easily and cheaply obtained, no difficulty is in the way to prevent the practical success of a school garden. Other countries have led the way in providing realistic object lessons in botany and practical horticulture. In many places in Europe, school grounds, instead of being given up to play, are utilized to supply materials for study in the school room. The authorities appreciate the training which results from pruning, budding and grafting trees, plowing, hoeing and fertilizing land, hiving bees and raising silk worms. This system, modified to suit the locality, runs through the entire educational structure, down to the most elementary grade.

(Extract from an article in Appleton's Popular Science Monthly, February, 1898, by Henry L. Clapp:)

"In 1890, there were nearly eight thousand school gardens for practical instruction in rearing trees, vegetables and fruits in Austria. The Austrian public school law reads: 'In every school a gymnastic ground, a garden for the teacher, according to the circumstances of the community, and a place for the purposes of agriculture experiment are to be created. School inspectors must see to it that (the italics are ours) *in the country schools, school gardens shall be provided for corresponding agricultural instruction in all that relates to the soil*, and that the teacher shall make himself skillful in such instruction. Instruction in natural history is indispensable to suitably establish school gardens.' * * *

"In Sweden, as long ago as 1871, twenty-two thousand children received instruction in horticulture and tree-planting, and each of two thousand and sixteen schools had for cultivation, a piece of land varying from one to twelve acres.

"Still more significant, is the recent establishment of many school gardens in southern Russia. In one province, 227 schools out of a total of 504 have school gardens, whose whole area is 283 acres. In 1895, these gardens contained 111,000 fruit trees and 238,300 planted forest trees. In them, the schoolmasters teach tree, vine, grain, garden, silk worm and bee culture. They are supported by small grants of money from the country and district councils. In different provinces of central Russia the system likewise obtains."

The advantages of these gardens have been found to be so great in the country that many of the cities have adopted the idea.

"Since 1877 every public school in Berlin, Prussia, has been regularly supplied with plants for study every week, elementary schools receiving specimens of four different species and secondary schools six. During the summer, at six o'clock in the morning, two large wagons start from the school gardens, loaded with cuttings packed and labeled for the different schools. Teachers take their classes into the school gardens for lessons in botany.

"The gardens in Berlin lack many advantages to be found in the country garden. Comparatively few children can see the plants growing from seed to seed, or growing at all. The butterflies, beetles and other insects which are constantly at work on growing plants come to the notice of only a few children; consequently, their habits can not be known to many. The nature of annuals and biennials, the growth of plants from week to week, the results of varying conditions of soil, light, heat and moisture, which are so necessary to a broad and sound understanding of plant growth, cannot be properly understood if reliance is to be placed on cut specimens alone."

France has long seen the force of these conclusions and provided opportunities for practical instruction in all that relates to increase of agricultural products. In the practice of agriculture, France leads the world. In the last quarter of a century she has double the product of her farms. She encourages the minutiae of nature knowledge. She has regard to the ultimate commercial value of the flower and of the plant that is good for food or beautiful to the eye. On certain days, the Jardin des Plantes, in Paris, is used as a place for botanical study by the school children of the city, but, besides this, gardening is practically taught in 28,000 primary and elementry schools, each of which has a garden attached to it, and is under the care of a master capable of imparting a knowledge of the first principles of horticulture. Throughout the southern part of France, the traveler sees everywhere the evidence of special aesthetic training in cultivated tracts of ground, free to the children for study and open to the public at stated hours for pleasure.

Germany, with her compact organization, has not lost sight of this important point in her vast training system. It is in this way that the youngest school child becomes impressed with the beauty and order of nature, of thrift, of the economical use of land. It is the pride of the German farmer to point to the charming outlines of the landscape, where level highways and well-kept grounds speak of industry, cleanliness and economy.

Experiments have been made to introduce a similar course in various places in this country. The wonder is that it is not universal, especially in the agricultural States. Volumes might be written to express a small part of what it would do in enhancing interest in country surroundings, aside from its educational value.

In March, 1890, as a result of the reading of a paper, entitled "Horticultural Education for Children," before the Massachusetts Horticultural Society, a school garden was established in connection with one of the Boston grammar schools. A committee of the society promised the necessary pecuniary support. In presenting the claims of school garden work, the head of the committee said: "We desire to emphasize the true idea of a school garden. Growing

plants from the first sign of germination to the full perfection of blossom and fruit, and edible roots in all stages, give constant opportunity for study."

Of plants suitable for educational purposes, the decision was: "Ornamental plants, or those commonly cultivated in flower gardens, will not stock the school gardens contemplated by the committee. Native wild plants, such as ferns, grasses, asters, golden rods, violets, native shrubs and economic plants, such as grains, vegetable roots and leguminous and cucurbitaceous plants must be the stock of the gardens."

The committee appropriated ten dollars to start the garden. A piece of ground forty-eight by seventy-two feet in the back of the boys' yards of the George Putnam Grammar School was found the most available. A few teachers offered all the assistance in their power to carry out the purposes of the committee.

It is impossible here to give a connected account of the progress made, but one visit to the garden will convince the most skeptical that one month's study of this kind is worth a year's work in the same study with only the aid of the text-book. At present, there are more than one hundred and fifty different species of native wild plants in this garden. A great many insects have been observed upon the plants—beetles, wasps, flies, moths and butterflies. Soon the garden will afford the pupils their only opportunities for studying, describing, drawing and painting such insects.

Since 1891, the Massachusetts Horticultural Society has offered every year a premium of fifteen dollars for the best school garden, in connection with the best use of it. This garden has competed with others, and won the premium every year.

EDUCATIONAL VALUE OF A SCHOOL GARDEN.

Besides the opportunities for correlation, it gives the opportunity for bringing together a great number of plants to be classified and arranged in families, genera and species. The reason for such classification becomes apparent in the grouping of plants similar in form, structure and habits. What cultivation will do by way of increasing the vigor of plants and making them blossom and fruit more freely is fully illustrated every season.

The school garden affords by far the best means for the cultivation of the powers of observation. Pupils find excellent forms to draw colors to imitate, habits to describe and motives to use in decorative design. They find something to take care of, something that quickly responds to love's labor, and as interest is added to interest, they lay up for themselves resources for happiness that should be the heritage of every child.

Mr. Hamilton W. Mabie, in his Essays on Nature and Culture, says: "Once in a while some discerning man, outside of the regular school interests, sees the inconsistencies of educational systems. Relationship with nature is a source of inexhaustible delight and enrichment; to establish it ought to be as much a part of every education as the teaching of the rudiments of formal knowledge; and it ought to be as great a reproach to a man not to be able to read the open pages of the world about him as not to be able to read the open page of the book before him."

School gardens are in successful operation at Medford, at Wenham and at other points in Massachusetts; at Bath, Maine, and at various points in the west.

"In 1899 the chairman of the school garden committee visited a number of school gardens in Germany. Those established in Pössneck and Gera were particularly interesting on account of their size, complete equipment, etc. Each is not far from an acre in area. The pupils of eight grades work in the garden an hour a day. The notes which they take in the garden, serve as a basis for compositions on the various kinds of work connected with farm life. Fertilizing, rotation of crops, the effect of the presence or absence of light, heat or moisture, the birds and insects injurious or helpful to certain kinds of plants, and many other kindred topics are written upon. As a consequence, the Germans are expert farmers. A considerable amount of such work in connection with our public schools in the country would make young people more contented, and successful in farming and keep them from rushing into the cities."

As showing how old new ideas are, it may be interesting to add that "the old Quaker, George Fox, in 1691, willed a tract of land near Philadelphia for a play ground for the children of the town to play on and for a garden to plant with physical (medicinal) plants, for lads and lassies to know simples, and learn how to make oils and ointments."

TOWNSHIP SCHOOL LIBRARIES.

To one unacquainted with rural schools as they most often exist, and with the conditions of rural life, it is beyond realization how the mental requirements for growth and development are met. There is positive intellectual hunger for suitable books to read in the enforced leisure of the long winter evenings. Newspapers and the cheap and sometimes questionable periodical literature are seized upon and read with avidity, but there are many who long to have access to a well-selected library, and who wisely improve such opportunities, as are afforded in profusion in the city free libraries and reading rooms.

School libraries, specially selected and well bound, are now on the market, especially adapted for country schools, and for a trifling sum, a really excellent and serviceable library can be procured.

SLOYD.

This feature of the educational system of Sweden, has been profitably adopted by many city schools and private institutions for certain grades and kinds of pupils. Working from models, making rough sketches and blue prints, with all the different processes characteristic of Sloyd work, would prove an acceptable addition to the ordinary text-book work in the country school. The country boy is early accustomed to the use of tools and implements, and he would find a keen delight in the adaptation of this system to his natural deftness in making things.

INDUSTRIAL EDUCATION.

The value of a comprehensive system of industrial education to the country child is absolutely incalculable. Simply stated, it means readiness for its future calling, fitness for special work in whatever direction natural talent or taste may point, saving of time and a higher degree of excellence in further education. The trained, the practiced hand, the mental power of gauging causes and effects, of comparison, of drawing an inference, of looking to a practical result; what amount of money, putting it upon the lowest, the pecuniary basis, could be set over against it.

The vast manufacturing and commercial interests of the country are calling for the ready hand and self-reliant energy of the specially instructed worker. The artistic and decorative industries are everywhere raising their standard of thoroughness in execution and in the conception of true ideals in art. The powers of the child are never so satisfactory as in early youth, when the impressionable brain takes note of lines and shadings, full of meaning, but apt to be lost to the more mature observer.

So the pencil and the brush should be put in the hand of the country child as early as in that of the city child. The developing taste should be encouraged from its lowest beginnings. The different seasons should give motives for plain and easy designs in decorative combinations or in simple "picture work." The fall furnishes examples of nature's profuse coloring. Leaves, twigs, seed-pods and fruits should not be neglected, as models, and for advanced classes a succession of simple forms could be united to form a harmonious design, for mural or surface decoration. Spring and summer fur-

nish numberless attractive studies in grasses and bending bud and full-blown flower.

In many New England country schools, such a system prevails. A little time is taken each day for hand training in its various departments, and when the child leaves the threshold of its early home it is, in some degree, ready for a wider destiny.

There is a class of minds to which the classical and literary training in the best high school is not suited. Beyond the essential requirements of an ordinary education, these do not desire to go and it is just at this period that the question becomes vital; the child should be allowed to give up or to enter upon a course of further training in line with its natural taste and endowment.

PHYSICAL CULTURE.

Too little attention is given in our rural schools to physical culture. There is a pre-supposed conclusion that the country child has no need of special training in this direction. Exercise necessitated by its environment and the tasks on the farm is confounded with the idea of physical instruction in graceful and harmonious muscular movements. The proper manner of sitting and standing, rhythmic lessons in marching and rising, passing each other and a regular drill in the etiquette of personal postures, is a part of the physical education of the fortunately placed city child, giving grace and manner, often a determining influence.

SPECIAL OCCASIONS IN SCHOOL LIFE.

Country children have fewer opportunities for celebrating national or historic events. Such events properly observed, foster patriotism, besides possessing a large educational value in sending the pupil to ransacking the stores of literature in embellishment of the particular subject. A fraction of time deducted from the regular routine would be useful in giving breadth and scope to the ideas of citizenship, civic duties and the value of manhood to a country or State. Washington's and Lincoln's birthdays, Arbor Day, Memorial Day and Flag Day, should be made just as impressive to one group of children as another. Such exercises stimulate the mind to self activity and cultivate the powers of heroic imagination and true conception of the ordinary duties of life.

SOME OUTGROWTHS OF A WELL-ORGANIZED CENTRAL SCHOOL NOT DIRECTLY EDUCATIONAL.

GOOD ROADS.

Good roads are an index of civilization, and as such, may be taken as a factor in the estimate of remedies for the preservation of the country. It makes a great difference to the former whether he travels ten miles in one hour or in three, and whether his team can draw two tons of produce or half a ton.

Good roads mean accessibility, and upon accessibility depends the value of the farm. But good roads mean much more than the price of land or additional labor in marketing farm products. The intellectual, moral and religious conditions of the rural districts are intimately associated with the roads. The schools are likely to be better, the social life is elevated and the church is better attended and exerts a wider influence where roads admit of easy travel.

That the maintaining of a central school would have a good influence upon the roads, needs no argument to prove. It is an absolute necessity as a safeguard of the comfort of the children daily passing to and fro over them. The carriers likewise would be interested, for the wear and tear of their vehicles and security of their incurred obligations. From many letters received on this subject, indications are strong that the improvement of roads is a concomitant of consolidation.

LOCAL INDUSTRIES.

In many parts of rural Pennsylvania, there are opportunities for establishing local industries that would give employment to a number of such, as from inclination or ties of family, would prefer to stay in their rural environment, were it not for the pressure of the necessity to earn something for support. The agricultural population is necessarily limited to those who find employment in agriculture, unless some enterprising spirit "sees a chance" and succeeds in building up an industry out of the local elements found there. Many such might be named. They will occur to every one who has knowledge of the resources of this State in mineral deposits and other material sources not yet even approximately utilized. Most of these special industries require specially trained workers, as in ceramics, pottery and tile manufacture. But many of these industries referred

to, employ women. Such are those engaged in producing the lovely specimens of hand-painted books now sought after.

The art ideals of Ruskin and Morris are working their due effect in the beautiful reproductions of the illuminated lettering, and quaint printing-forms that are so interesting in their original setting. One of these has been formed at East Aurora, N. Y., a small town and of no especial importance until this industry was established there and gave it fame. The "Roycrofters," as the company is called, says, in one place: "Our business is simply to give artistic employment to the people in the village or immediate vicinity, and, if possible, show them that the country is just as desirable a place to live in as the cities."

One who visited this industry, for so its must be called, writes of it in this wise: "You are here enacting a perfect poem of labor, dedicated to the muses of beauty and health. A rare happiness and serenity result from this linking of day to day with enforced and gracious industry. Joy is lyric. The workman who sings at his bench is doing his work well.

"In the midst of a material civilization that subordinates the true nobility of life, of a head-long race for wealth that grinds the faces of the poor, you are favored to set here, in an idyllic frame, the picture of an antique simplicity. Let the world roar at a safe distance—here in this quiet and sheltered haven you are doing a task, made possible by the genius of one man, that is of vastly more import than all the hubbub and shouting yonder. You are as a voice crying in the wilderness; preaching the gospel, I would say, of content with fair and ordered industry, as against the frantic body-and-soul-destroying slavery that is miscalled labor elsewhere, inculcating by your modest example the preciousness of good living, the conservation of physical, mental and spiritual health."

Other similar art industries are connected with Miss Starr's interesting work along the same line. The more useful and practical of the women's clubs are interesting themselves in providing schemes and outlining simple plans for productive work among the women and children of the laboring class in the rural districts.

Such plans might well be propagated as an offset to university settlements in the city and which have such a powerful uplifting influence. A school, uniting and drawing out the latent special gifts of many who are all unconscious of their powers and of the opportunity that is ready for the skilled hand, would be a god-send in many ways besides those indicated in the curriculum of study.

BACK TO THE LAND MOVEMENTS.

In New Hampshire, the "Old Home Movement" is significant of the trend of opinion in that State in regard to the reclaiming of the abandoned farms.

The movement is thoroughly organized and is making headway under the leadership of State officials from the Governor down, and of prominent men in all circles of intellectual and commercial matters.

The Village Improvement Society, has for its ultimate object the rehabilitation of the rural districts of New England.

DENMARK'S DESERTED FARMS.

From a leaflet published by the Howard Association in London, England, we take the following:

"Partly by State aid and partly by private enterprise, 2,000 square miles of waste land have been reclaimed and five-eighths of the national territory is possessed by small freeholders and peasants. Above a hundred people's high schools have been established, where peasantry and working classes of ages from 18 to 25 get board and education for 10 s. per week. The Danish farmers have formed co-operative societies for the collection, sale and export of their produce. Danish university and college students have instituted throughout the rural districts, free lectures, evening lessons and committees for promoting popular amusements. In almost every village a public hall has been erected for recreation and social gatherings. In villages where the high school has obtained influence, neither drinking, gambling nor gross breaches of morals are to be met with, yet the villagers are fond of games, dancing, sports and other recreations."

APPENDIX.

ABSTRACTS OF LAWS RELATING TO CONSOLIDATION AND TRANSPORTATION IN THE STATES PARTICULARLY NAMED.

MASSACHUSETTS.

The following law was enacted in 1869:

"Any town in the Commonwealth may raise by taxation or otherwise and appropriate money to be expended by the school committee in their discretion in providing for the conveyance of pupils to and from the public schools."

CONNECTICUT.

Consolidation of School Districts.

(Gen. Stat., Title xxxv, Chapter cxxxvi, page 477.)

Section.

1. Consolidation by vote of towns.
2. Vote to be by ballot at annual meeting.
3. School business at town meetings.
4. Voting list.
5. Names of persons elected to be returned to Secretary of State.
6. When vote of consolidation takes effect.
7. Number of school committee, when and how determined.
8. School committee, how first chosen.
9. Number to be voted for.
10. Classification.
11. Powers and duties of school committee.
12. Property and duties of consolidated districts.
13. Time for payment of tax extended.
14. Proceedings where there are joint districts.
15. Permanent funds, management of.
16. School libraries.
17. Notice of abolition of part of a school district.
18. An abolished district may settle up its affairs.
19. Mode of paying debts.
20. Collection of taxes in favor of districts.
21. Abandonment of union system; vote, how taken.
22. Town to be reimbursed for improvements.
23. When vote to re-establish district takes effect.
24. Committee of consolidated district to be visitors of the town, on abandonment of town system.
25. Taking land for school purposes.
26. Payment of school expenses.
27. Distribution of school money to towns under town system.

The headings of the different sections are given in order to show how comprehensive this act is.

Section 142. "Any town may abolish all the school districts and parts of school districts within its limits and assume and maintain control of the public schools therein, subject to such requirements and restrictions as are or may be imposed by the General Assembly. * * *

Section 143. "Whenever a vote shall be taken in any town in reference to abolishing school districts and assuming control of the public schools therein, such vote shall be by ballot, at an annual town meeting, upon notice thereof given in the warning. The selectmen shall provide a ballot box for that purpose, marked "Consolidation of Districts." Those in favor of such consolidation shall deposit in

said box a ballot with the word "yes" written or printed thereon, and those opposed shall deposit a ballot with the word "no" written or printed thereon. * * *

Section 198. "Whenever any school shall be discontinued under the provisions of sections 196 or 197 (reference to conditions required for abolishing schools) the school visitors may provide transportation to and from school.

Section 199. "The expenses of transportation, when approved by the board of visitors, shall be paid by the town (township) treasurer, upon the order of the selectmen."

RHODE ISLAND.

Section 8. "The school committee of any town may consolidate any schools the average number belonging of each of which is less than twelve, for the purpose of establishing a graded school; and said school committee shall have authority to provide, in their discretion, transportation for pupils to and from schools."

NEW HAMPSHIRE.

The law of New Hampshire does not make it obligatory upon the committee to convey any children to school, it is permission only.

OHIO.

AN ACT

To provide for the centralization of township schools and provide a high school for the same.

Section 1. For the purposes of this act the word "centralization" is hereby defined as a system of schools in a township providing for the abolition of all sub-districts and the conveyance of pupils to one or more central schools.

Section 2. A township board of education may submit the question of centralization, and upon the petition of not less than one-fourth of the qualified electors of such township district must submit such question to a vote of the qualified electors of such township district, and if more votes are cast in favor of centralization than against it, it shall become the duty of the board of education, &c., to proceed at once to the centralization of schools of the township and if necessary, purchase a site or sites and erect suitable building or buildings thereon.

Section 3. All elections ordered by a board of education in pursuance of section two of this act shall be held at the usual place or places of holding township elections, at a regular or special election as may be determined by the board, and notice shall be given and the election conducted in all respects as provided by law for the election of township officers, and the ballots shall have printed thereon: "For centralization—Yes." "For Centralization—No."

Section 4. Should the board of education deem it necessary to issue bonds to purchase a site or sites or erect a building or buildings for the purpose of such centralization, then the election shall be conducted as provided in section three of this act, but in such case the ballots shall have printed thereon: "For levying a tax to purchase _____ site (or sites) and erect _____ building (or buildings) for the centralization of schools, at a cost not to exceed \$_____. Yes." "For levying a tax to purchase _____ site (or sites) and erect _____ building (or buildings) for the centralization of schools at a cost not to exceed \$_____. No." And if more votes are cast in favor of levying said tax for said purpose than against said proposition, at such election it shall be the duty of the said board of education and the board of education is authorized to issue bonds and sell the same as provided by law and to levy a special tax to provide for the payment of the same, together with interest thereon; provided said levy shall not in any one year exceed five mills on the dollar valuation, and said bonds shall not bear more than six per cent. interest and shall not be sold at less than their face value.

Section 5. In a township district in which proceedings have been had under the preceding sections of this act and the vote has been favorable for centralization, there shall be an election held on the next succeeding first Monday of April for the election of a board of education, consisting of five members elected at large in said township district, one of whom shall serve three years, two for two years and two for one year, and two members shall be elected annually thereafter for a term of three years, except every third year but one shall be elected for three years. Said election shall be held at the annual voting place or places in said township by the regular election officers and shall be conducted in all respects as provided by law for the election of township officers: Provided, There shall be a separate ballot box, poll books and tally sheets, and said election officers shall receive no extra compensation for such services.

Section 6. Upon the election, qualification and organization of the board of education provided for in section five of this act, the board of education previously existing in said township district shall cease to exist and the same is hereby abolished and the board of education provided for in this act shall be considered the successor of the former township board.

Section 7. The clerk of the township shall be *ex-officio* member of the board of education provided for by this act and shall be clerk thereof; the treasurer of the township shall be *ex-officio* treasurer of the board of education: Provided, That in all other respects the law governing village boards of education shall govern and control all boards of education organized as provided by this act.

Section 8. Boards of education in township districts organized as provided for by this act are required to maintain and support a graded course of instruction and may include a high school course of not less than two years; they are also required to furnish transportation to and from school, to all pupils living more than three-fourths of a mile from the central building, said distance to be measured from the enclosure immediately surrounding their residence to the school house property, along the nearest public highway.

Section 9. This act shall take effect and be in force from and after its passage.

PENNSYLVANIA.

HIGH SCHOOLS.

Act of 28th June, 1895.

AN ACT

To regulate the establishment, classification and maintenance of high schools, the distribution of appropriations in aid of high schools, and the employment of teachers in high schools receiving State aid.

Section 1. Be it enacted, &c., That the directors or controllers of any school district may establish a public high school, and the State Superintendent of Public Instruction shall prescribe a uniform course of instruction which shall be taught in the high schools of each grade.

Section 2. The directors of two or more townships or school districts shall have power to establish joint high schools, and the expense shall be paid as may be agreed upon by the directors or controllers of said districts, who shall meet jointly so often as may be necessary for the transaction of business pertaining to the joint high schools under their jurisdiction, and all proceedings in relation thereto shall be spread at large upon the minutes of the respective boards.

Section 3. A high school maintaining four years of study beyond the branches of learning prescribed to be taught in the common schools and called the common branches shall be known as a high school of the first grade; a high school maintaining three years of study beyond the common branches shall be known as a high school of the second grade; a high school maintaining two years of study beyond the common branches shall be known as a high school of the third grade: Provided, That the reviews necessary for the prosecution of high school studies shall not be excluded from the estimate of the year's study beyond the common branches.

Section 4. From the annual appropriations in aid of high schools, a high school of the first grade shall each year receive a sum not exceeding eight hundred dollars, a high school of the second grade a sum not exceeding six hundred dollars; a high school of the third grade a sum not exceeding four hundred dollars. If the appropriation is insufficient to pay the above amounts to the several high schools, then the appropriation shall be distributed to the schools of the respective grades in such a manner that each school shall receive a sum proportional to the number of years of advance study maintained in its courses of instruction: Provided, That any high school established at the fall opening of the school year beginning on the first Monday of June, one thousand eight hundred and ninety-five, shall be paid at the end of the year as a high school of the third grade.

Section 5. The directors or controllers of every district receiving aid in accordance with section four of this act shall employ for said high school at least one teacher, legally certified, to teach book-keeping, civics, general history, algebra, geometry, trigonometry, including plane surveying, rhetoric, English literature, Latin, including Caesar, Virgil and Cicero and the elements of physics, chemistry, including the chemistry of soils, botany, geology and zoology, including entomology, and no teacher shall be employed to teach any branch or branches of learning other than those enumerated in his or her certificate.

Section 6. The directors or controllers of every district establishing a high school and receiving State aid in support of said high school shall, before the first day of September following the close of each school year, make to the Superintendent of Public Instruction sworn statements, giving full information concerning the teachers, classes and courses of study of every high school under their jurisdiction.

Section 7. High schools established in accordance with this act of Assembly shall be under the supervision of the city, borough or county in which they are situated.

Section 8. The courses of study in high schools receiving State aid

shall be subject to the approval of the Superintendent of Public Instruction.

Approved—The 28th day of June, A. D. 1895 (P. L. page 413, etc.).
DANIEL H. HASTINGS.

AN ACT

To authorize school directors and controllers to provide transportation for school children, at the expense of the district, to the public schools of the district in which they reside, or to the schools of neighboring districts.

Section 1. Be it enacted, &c., That from and after the passage of this act the school directors of any district, by the affirmative votes of a majority of the board duly recorded on the minutes, may provide transportation for the children, at the expense of their respective districts, to and from any school in the district in which the children have their residence, or of neighboring districts: Provided, however, That the provisions of this act shall apply only to the pupils of schools, which, in the discretion of the board of school directors, have been closed by reason of small attendance: And provided further, That it shall apply only to pupils that have a greater distance to travel or are placed at greater inconvenience than before such schools were closed: And provided further, That the cost of transportation per pupil shall not exceed the cost of maintaining per pupil in the schools thus closed.

Section 2. The expense incurred providing for transportation of school children under this act, and the tuition for education when admitted to the schools of other districts, shall be paid by the treasurer of the district in which the children have their place of residence, upon the orders of the school board of directors; and no member of the board or other official of the township, borough or school district shall be a party to any contract or agreement with the board, or receive any remuneration for services rendered to the district in conveying children to and from any school.

Approved—The 22d day of June, A. D. 1897 (P. L. No. 149, p. 181).

COURSE OF STUDY OF GUSTAVUS PUBLIC SCHOOLS.

PRIMARY DEPARTMENT.

First Year. D Primary.

Reading—Chart, primer. Baldwin's First Year.

Spelling—Words from lesson.

Writing—Small and capital letters. Pencil.

Numbers—Combinations 1 to 15.

Language—Lessons given by teacher.

Physiology and Nature Work—Oral. See special courses.

Second Year. C Primary.

Reading—Baldwin's Second Year and Supplementary.

Spelling—Words from lesson.

Writing—Combinations of letters (pen or pencil).

Arithmetic—Milne's Elements to page 132. Omit pages 92-93, 100 101, 113-118, 132-137.

Language—Lyte's Elementary English, Part I.

Physiology and Nature Work—Oral. See special courses.

Third Year. B Primary.

Reading—Baldwin's Third Year and Supplementary.

Spelling—Patterson's Word Book to lesson 44.

Writing—Barnes' No. 1.

Arithmetic—Milne's Elements to page 132.

Language—Lyte's Elementary English, Part II.

Physiology and Nature Work—Oral. See special courses.

Geography—Oral. See special courses.

Fourth Year. A Primary.

Reading—Baldwin's Fourth Year and Supplementary.

Spelling—Patterson's Word Book. To lesson 92 and review.

Writing—Barnes' No. 2.

Arithmetic—Milne's Elements to page 188. Omit Art. 190, 198.

Dubb's Mental, easier parts to page 47.

Language—Lyte's Elementary English, Part III.

Physiology and Nature Work—Oral. See special courses.
 Geography—Natural Elementary to page 71.

GRAMMAR DEPARTMENT.

Fifth Year. D Grammar.

Reading. Baldwin's Fifth Year and Supplementary.
 Spelling. Patterson's Word Book to lesson 144.
 Writing. Barnes' No. 3.
 Arithmetic. Milne's Elements to page 205 and review. Dubb's Mental. Review to page 47, advance to page 98.
 Language. Lyte's Elements of Grammar to page 109.
 Physiology and Nature Work. Oral. See special courses.
 Geography. Natural Elementary, completed.

Sixth Year. C Grammar.

Reading. Baldwin's Sixth Year and Supplementary.
 Spelling. Patterson's Word Book. Review from first. Advance to lesson 200.
 Writing. Barnes' No. 4.
 Arithmetic. Milne's Elements review and completed. Dubb's Mental to page 125.
 Language. Lyte's Elements of Grammar to Part III.
 Physiology and Nature Work. Oral. See special courses.
 Geography. Natural Advanced to page 61.

Seventh Year. B Grammar.

Reading. Baldwin's Seventh Year and Supplementary.
 Spelling. Patterson's Word Book to lesson 280.
 Writing. Barnes' No. 5.
 Arithmetic. Milne's Standard to page 170. Dubb's Mental reviewed to page 125.
 Language. Lyte's Elements of Grammar. Part III and reviewed.
 Physiology and Nature Work. Oral. See special courses.
 Geography. Natural Advanced, pages 62-111.
 History. Eggleston's First Book.

Eighth Year. B Grammar.

Reading. Baldwin's Eighth Year and Supplementary.
 Spelling. Patterson's Word Book, completed and reviewed.

Writing. Barnes' No. 6.
 Arithmetic. Milne's Standard, pages 170-301. Dubb's Mental.
 Begin page 125.
 Language. Lyte's Edvanced to page 226.
 Geography. Natural Advanced, completed and reviewed.
 History. McMaster's to page 205.
 Physiology. Overton's Intermediate.
 Nature Work. Review of special courses.

HIGH SCHOOL DEPARTMENT.

First Year. Freshman.

Arithmetic. Milne's Standard. Dubb's Mental completed.
 Language. Lyte's Advanced, completed.
 History. McMaster's, completed. Constitution studied briefly.
 Physiology. Overton's Advanced.

Second Year. Sophomore.

History. Colby's Outlines of General History—thirty-two weeks.
 Physical Geography. Guyot—thirty-two weeks.
 Rhetoric. Quackenbos—thirty-two weeks.
 Civics. McCleary—first sixteen weeks.
 Algebra. Milne—last sixteen weeks.

Third Year. Junior.

Algebra. Milne—thirty-two weeks.
 Geometry, Plane. Milne—thirty-two weeks.
 Latin. Harkness' Grammar and Reader—thirty-two weeks.
 Literature. Watkins and Brooks—last twenty-four weeks.

Fourth Year. Senior.

Physics. Cooley's Students' Manual.
 Latin. Cæsar, 4 books. Prose Composition.
 Geometry, Solid. Milne—first sixteen weeks.
 Botany. Wood—last sixteen weeks.
 Common Branches. Reviewed—thirty-two weeks.

Rhetorical exercises throughout the twelve years.

SYLLABUS OF WORK BY GRADES.

FIRST YEAR.

Reading.

Baldwin's Primer and First Reader. There is no more important branch taught than reading. The order for beginners is: the object, the idea, the spoken word, printed word, proper pronunciation. Master the words as presented—first as a whole, second as to phonics, third as to letters. Aim to make the child independent of the teacher. See that pupils understand what they read.

Spelling.

Spell words from reader and review often.

Writing.

Strive to keep proper form before the child, but pay little attention to position and movement.

Numbers.

Use objects to give ideas of numbers. See that pupils can count, having them count objects. Teach meaning of signs. Teach objectively simple fractional parts of numbers as 1-2, 1-3, 1-4, 2-3, 2-4, etc.

Language.

Encourage pupils to talk. Have stories told by pupils after having heard them read. Correct improper use of language.

Physiology and Nature Work.

See special courses for this and following years.

SECOND YEAR.

Reading.

Baldwin's Second Year. Notice position of child. Tone of voice loud enough to be heard distinctly. Accurate pronunciation. Teach diacritical marks. Read other texts.

Spelling.

Patterson's American Word Book. Spell words from reader. Spell both oral and written.

Writing.

Notice position more than movement.

Arithmetic.

Milne's Elements. Teach reading and writing of numbers. Teach combinations of numbers.

Language.

Lyte's Elementary English. Have neat and accurate work; allow no other.

THIRD YEAR.

Reading.

Baldwin's Third Year. See that the pupil reads in a natural manner. Waste no time in allowing the pupils to correct errors, but have the attention of the class at all times.

Spelling.

Patterson's Word Book. Review last year's work and study carefully new words. Oral and written work.

Writing.

Pay attention to form of letters. Position of child, body, head, feet, hands. Position of pen, paper. Work neatly done. One page a week.

Arithmetic.

White's Elements. Be sure the pupils understand the work required of them. Review often.

Language.

Lyte's Elementary English. Do more than the work of the book. Have some original work by pupils.

Geography.

See special courses.

FOURTH YEAR.

Reading.

Baldwin's Fourth Year. Watch the mechanical side of reading as well as the thought getting. Test the pupils to see if they understand what is read.

Spelling.

Patterson's Word Book. Have the words used in sentences by pupils. Be sure they understand the use.

Writing.

Allow only neat work. Have practice paper for use of pupil to supply the copy-book.

Arithmetic.

Milne's Elements and Dubb's Mental. Have mental work at least one-third of time, using easier parts of mental.

Language.

Lyte's Elementary English. See that good language is used by pupils at all times.

Geography.

Natural Elementary. Use globe. Make a compass. Our pupils all face north, which will be a great help in studying the map.

FIFTH YEAR.

Reading.

Baldwin's Fifth Year. Teach breathing as well as pronunciation. Clear, distinct voice. Accent, emphasis, pitch, force, rate, etc. Review diacritical marks.

Spelling.

Patterson's Word Book. See 4th year.

Writing.

Give close attention to position and movement. Do not accept anything but neat work.

Arithmetic.

Milne's Elements and Dubb's Mental. Use much time in teaching of fractions. Have objects before pupils.

Language.

Lyte's Elements of Grammar. See that pupils can not only give parts of speech, but that they can use them.

Geography.

Natural Elementary. Notice pages 143, 144. Draw maps. Where possible touch on historical subjects.

SIXTH YEAR.**Reading.**

Baldwin's Sixth Year. Follow directions given before. The average reader falls far short of the author's meaning, to say nothing of his feelings. Question in every way on the lesson.

Spelling.

Patterson's Word Book. Have words used in sentences as before.

Writing.

Watch movement. Neat work.

Arithmetic.

Milne's Elements and Dubb's Mental. Teach tables carefully and see that pupils know of what they are talking. Use mental work if possible corresponding with written lessons.

Language.

Lyte's Elements of Grammar. Attention may be called in a kindly way to errors. Teach use of dictionary.

Geography.

Natural Elementary. Draw maps. Teach areas by comparison. Teach productions by belts.

SEVENTH YEAR.

Reading.

Baldwin's Seventh Year. Follow instructions of other grades.

Spelling.

Patterson's Word Book. As previous year.

Writing.

Teach movement. Quickness is to be desired.

Arithmetic.

Milne's Standard and Dubb's Mental. Take nothing of pupil's knowledge for granted. Test upon all subjects.

Language.

Lyte's Elements of Grammar. Notice carefully the reviews called for in the book.

Geography.

Natural Advanced. Use the globe. We have one in reserve. Let us wear this one out by use. Use books of reference. Draw maps. Use the pronouncing vocabulary.

History.

Eggleston's Primary. Have the pupils bring in additional facts besides those found in the book. Dwell upon the characters mentioned in this work.

EIGHTH YEAR.

Reading.

Baldwin's Eighth Year. The greatest difficulty experienced by the average high school student is that he is not able to read. He can pronounce fairly well the words in the book before him, and perhaps even deliver the writing of another, after the manner of an alleged elocutionist, but, for all that he cannot read. To read, one must think. He must think what another thought and as he thought it. To do this, one must, first of all, understand the general and particular meanings of words. He must understand the combinations formed

when words are put together in sentences. Unless he so understands words and their use, he certainly cannot expect to catch the meaning and spirit of another who speaks to him from only the printed page.

Pupils should be able to read before they reach this grade.

However, if pupils in this grade have not mastered even the mechanical part of reading which belongs to a much earlier period, spend some time upon this elementary work.

If pupils are lacking in their knowledge of common words, spend much time on this.

Test constantly by all methods known to the teaching profession to see whether pupils follow the thought.

See that pupils are able to read all text books used in this grade. Read and observe what has been outlined in all previous grades. Attention should be given to silent reading.

Read supplementary texts and literature provided.

Aim to direct the home reading of pupils, (1) by ascertaining what they are reading, (2) by suggesting indirectly or directly, books that are worth reading.

Spelling.

Patterson's Word Book. Thoroughly review the book.

Writing.

Follow directions of previous grades.

Arithmetic.

Milne's Standard and Dubb's Mental. See previous grades.

Geography.

Natural Advanced. Draw maps of Ohio and Trumbull county. Study history of both.

History.

McMaster's History of the United States to the Struggle for Commercial Independence, pages 1-205.

In all teaching of history remember that cause and effect are inseparably joined together. If you teach history as a series of disconnected happenings it will mean but little, and what is taught will soon be forgotten.

Trace every effect back to its producing cause, and history is found to be a study that appeals to reason as well as to memory. It will then be interesting, and "That which interests is remembered."

Study in detail those historic characters who, by reason of a strong personality, or force of character, rise above the general level of mankind.

Physiology.

Overton's Intermediate. Dwell carefully upon the practical use of physiology.

SPECIAL COURSES OF STUDY.

ORAL GEOGRAPHY FOR THIRD YEAR PUPILS.

1—Directions, compass, north, south, east, west; right, left, front, back, up, down, on, over, under, in, to, towards.

2—Slate map of table-top, desk, room. Blackboard map of same. Locate objects on map and have pupils get familiar with directions.

3—Develop terms, long, wide, thick, high, broad, narrow. Get idea of distance in inches, of foot, yard, mile.

4—Bound school rooms, school yards, etc.

5—Map of township, county.

6—Water, still, running; why running? boats, waterfall (why so called?). Tell of Niagara, Sault Ste. Marie, etc. Develop spring, brook, creek.

7—Islands, peninsulas, capes, isthmus. Have children find all these in nature.

8—Soil; sand, clay, gravel; fertile or barren. Rocks, slate, sand-stone, marble (coal?).

9—Trees; apple, cherry, hickory, chestnut, walnut, buckeye, maple, oak, etc. Leaves; fruits; apples, cherry, nuts, cocoa, etc.

10—Study an apple; how are seeds arranged? etc.; plum, orange, lemon; compare them.

11—Grain in this locality; wheat, oats, rye, corn, use? Rice, etc.

12—Vegetables; potatoes, tomatoes, cabbage, peanuts. What things are conducive to growth? Sun, light, rain, snow, clouds.

13—Liquids; water, juices, molasses (sugar), coffee, tea, poisons.

14—Plants for clothing; flax, cotton, hemp; silk worm.

15—Animals; domestic, wild, birds, reptiles, insects.

16—Occupations.

17—Races of men.

18—The earth a sphere.

19—Motions of earth, time, seasons, clocks.

20—State, officers, government, laws.

PHYSIOLOGY.

Assignment of Work for the Primary and Grammar Grades upon the Subjects of Physiology, Hygiene, and the Effects of Narcotics.

In compliance with the state law the effects of alcohol and narcotics are to be taught in all schools.

First Year. D Primary.

Laws of Health.—Talks on cleanliness, hands, face, person, hair combed. Teacher sees that these things are observed by all pupils, and that it does not end in "talks."

Necessity of sufficient and proper clothing. Wet feet and damp clothing. Playing out doors on wet days. Draughts. How to eat. Food for children. Good food—Bread, milk, vegetables. Not good—Strong foods—rich or greasy meats and gravies, candies, strong coffee and tea. Poisonous—Alcoholic drinks, tobacco.

Importance of much sleep. "Early to bed," etc. Body, relation and name of parts; hands, right, left; fingers. Head, face, neck, trunk, legs, feet, toes.

Compare parts of human body with those of animals.

Use of each part. Wonderfulness of body. "The House I Live In."

Second Year. C Primary.

Review work of first grade.

Bones.—Framework of body. Why necessary. How bones are joined. Three kinds of joints—hinge, ball and socket, and compound.

Scholars bring some sample pieces of clean bone. Why hard and firm. (Mineral and animal matter.) Result if both ingredients are not there.

Bones of children; of adults. How bones grow. How bones may be misshaped—evil of.

Erect position. Why important. No need of stoop-shoulders, "As the twig is bent, the tree's inclined."

Seats in room must allow feet of all pupils to rest upon the floor. Why? If school furniture is not now so adjusted, give no rest to superintendent and board of education until it is.

Importance of exercise. Narcotics stunt growth.

Third Year. B Primary.

Review work of first and second grades.

Muscles.—(Flesh), the covering of the bones; color, red. Teacher bring before the class a piece of raw, red meat (beef). This muscle of the beef is similar to ours.

Pick to pieces a piece of boiled beef, thereby showing bundles of fibers. Compare to cables of suspension bridge. Characteristic properties of muscular tissue, contractility. Explain as a piece of rubber (elastic) stretches out, so a muscle "draws up." Illustrate with biceps.

Arrangement of muscles in pairs. Why? All movements by contraction of some muscles.

Muscles do not extend to fingers and toes. Why? What takes their place? Use of tendons and chords, extension of muscles. Appearance of tendons, strength. Take leg of chicken to class, and show the use of tendon in leg. Take out tendon. Experiment as to amount it will lift in pounds. Compare this tendon with the branching tendons of our wrist, hand and fingers. How muscles grow strong.

Need of exercise—not exercise to the exhaustion point. Arm of blacksmith. Each pupil examine muscles of arm.

Flesh we eat, name: Ox, beef; calf, veal; sheep, mutton; deer, venison; fowl, fish, etc.

Fourth Year. A Primary.

Review work of previous grades.

The Skin.—Covering of muscles; appearance, color, smoothness. Cutis and cuticle.

Skin in commerce. Leather in shoes. Skin of what animal? Shoe strings, pocket books, drum heads, gloves, etc.

Use of our skin; to beautify, to protect, to regulate temperature, to remove waste matter. Organ of touch. Pores, use. If pores were closed, what? Do animals sweat? Horse? Dog? Outer skin insensible.

Sense of touch—one of the five. We tell much by feeling objects—hard; soft, shape. The eye alone, from one position, could not tell a sphere from a circle, a cylinder from a plane surface. Without touch the eye would be very imperfect. Blind child restored to sight could not by sight tell cat from dog although he had played with both all his life. Touch with the blind.

How care for the skin? Cleanliness, bathing. Why? Void draughts. Skin readily absorbs both food and poison. Danger of cosmetics. Narcotics.

Fifth Year. D Grammar.

Review work of previous grades.

Amplify work of second year on bones. Use chart. Uses of bones in commerce.

Digestion.—Use of lips, tongue, teeth, mouth. Teeth, arrangement as to incisors and molars; advantages of both kinds.

Lay much stress upon care of teeth.

Chew food thoroughly. Why?

Passage to stomach. Use chart.

Stomach, where? Size? Shape when full? Empty? Work of stomach. Eat at regular periods, not between meals. Stomach needs rest.

What to eat (see any good physiology). Food now read to enter blood. Experiments with alcohol. Is alcohol a food? Does it give strength? What drinks contain alcohol? Effects of alcohol upon the stomach. Use chart. Why are such drinks destructive to the physical, intellectual and moral nature?

Practical talks on how to prepare food for the table. Do not go upon the supposition that children learn this in every home. They do not. Plain talk on kitchen economies.

Sixth Year. C Grammar.

Review work of previous grades to whatever extent necessary.

Amplify work of third year on muscles. Use chart.

Circulation.—Organs; heart, arteries, capillaries, veins. Use chart. Heart, what? work, chambers, draw on board. Dissect heart of beef. Care of heart, free from excitement, violent exercise, too long rope-skipping. Tobacco. Blood. How much blood in average human body? (18 lbs.) What is the pulse? Where felt? What does it indicate? Number of pulsations per minute. Children count pulse sitting, standing. What is a blush? Account for the perpetual "blush" on the nose and face of the intemperate.

What effect has alcohol upon the temperature of the body (Lowers it. Men may deny this, but it is a fact. The thermometer shows it.) Effect upon the circulation. What is the normal temperature of the body? How ascertained? Read "The Festal Board."

Respiration.—What is it? Universality, plants, animals, of both land and sea.

Organs, (a) air passages—nasal openings, larynx, trachea, (wind-pipe), bronchial tubes. Use chart. (b) Lung—Bring a lobe of the lungs of a beef to class. (c) Diaphragm—talks on structure, use and care of various parts. How to breathe. Give school breathing exercises. How to use the voice.

Purposes of respiration—to warm, to purify. How? Importance of pure air in school room, at home, in sleeping rooms, churches, etc. What is air? Experiments with air pump. Composition of air. Oxygen. Experiments with oxygen gas. Universality of this element in nature. Experiments with carbonic acid gas and lime water.

What does it show? Effects of alcohol upon the lungs. Read "The Worm of the Still."

Seventh Year. B Grammar.

Review work of previous grades to whatever extent advisable.

Nervous System and Special Senses.—(Touch, taste, smell, sight, hearing.) Brain, where? How protected? Size. Structure. Medulla oblongata, spinal cord, nerves, appearance of nerves. Mysteries and peculiarities of the brain as the seat of intellect. Practical uses of reflex action.

Use and abuse of nervous system. What weakens? What strengthens? Effects of alcohol and tobacco (especially the cigarette). Why narcotics are worse for the young. Ounce of prevention worth more than a pound of cure. Right formation better than reformation. "Acts form habits, habits form character, character form immortal destiny."

What gives us touch, taste, smell? Value of same to us. Special cultivation and peculiarities of.

Sight, eye, structure. Study chart. Lay much stress upon care of eyes. Dissect eye of beef. Light should come from left and rear in school. Light surface (glass in windows) in school room should be to floor surface as one to five, at least not less than one to six. Have pupils find ratio in their school room.

Philosophy of hearing. Speed of air waves. Seek to develop self-control. Cultivate no hot-bed growth of virtues which will wither and die in the presence of temptation, or be contaminated when confronted by vice. We want stalwart manhood and womanhood.

Do not try to merely point, but to lead pupils to that purity and strength of life where improper sights and sounds "Will die upon the eye and ear, no inward answer gaining."

NATURE WORK FOR ELEMENTARY GRADES.

Following is the assignment of Nature Work for the Primary and Grammar Grades.

Introductory.

The purpose of this course is three-fold: To cultivate the powers of observation in children and young people, to import useful information, to awaken a love of nature.

First Year. D Primary.

Observe all indications of returning spring in (1) melting ice, (2) warm sun, (3) coming of birds, (4) appearance of ground, (5) milder air.

All life locked up in the tree or below ground is now becoming visible (1) in tiny green sprouts, (2) blade of grass, (3) buds.

Bud-scales—What? Where? Why? Lining of bud-scales, soft, wooly, covering often sticky, wax, why? (Keep out snow, rain and cold.)

Watch unfolding of buds of maple, lilac, horse-chestnut.

Position of buds, terminal, lateral. Lateral buds—opposite or alternate. Opposite (pairs), as seen in lilac, maple, horse-chestnut. Alternate (single), as in elm, oak, hickory.

Second Year. C Primary.

Review work of first grade.

Leaf, parts (1) petiole, (2) blade. Petiole, short, long. Observe difference in petiole of maple, oak, elm. Blade, structure, ribs, veins, veinlets; use of each part. Sap, what? Its use. How reaches leaf.

Venation—netted-veined, parallel-veined. Netted-veined—feather-veined, radiate-veined (maple leaf). Parallel-veined—corn. Read "What the Leaf said." Give each pupil grain of corn. Observe each grain consists of two parts: embryo and albumen, so called. Use of each. Amplify.

Plant corn and beans in box in school rooms two weeks before plants are needed. Dig up a few grains before plant appears. Examine. Talks upon germination. Write upon blackboard dates when various seeds were planted, dates when young plants first appear, height of plant when one week old, two weeks.

Parts of the young plant.

Third Year. B Primary.

Review work of first and second grades.

Margins of leaves; crenate as in catnip, serrate (saw) as in cherry and apple, dentate (toothed) as in dandelion. Other margins not necessarily named.

Base of leaf. Apex; pointed, rounded.

Shape of leaf; lanceolate as in peach leaf, ovate as in plum cordate as in lilac and catnip. Others. Use of leaves on tree? Amount of leaf surface on a tree is very great. "The Washington Elm," at Cambridge—a tree of no extraordinary size—was some years estimated to produce a crop of seven millions of leaves, exposing a surface of 200,000 square feet, or about five acres of foliage. (Teacher

explain and tell school extent of five acres. Also how many school yards like yours you could make out of five acres.)

Fourth Year. A Primary.

Review work of previous grades.

The flower, parts; sepal, calyx, petal; corolla, stamens, pistil, perianth. Let pupils bring common flowers and find these parts until they are perfectly familiar with them.

Learn names and peculiarities of common flowers.

Read "An April Day."

Fifth Year. D Grammar.

Review work of previous grades.

Read "The Bluebell." Moral taught.

Roots; tap-roots, fibrous. Use to tree or plant. Edible roots (subterraneous stems), potato, turnip, etc. Amplify. How cultivate all such products as potatoes, beets, turnips, rutabagaes, etc. Encourage all children who have gardens at home to cultivate one plant or small spot for themselves. Observe changes day by day, and though the youthful agriculturist should fail as to products, it will be a successful failure.

Sap of many trees is useful to man: Hard maple gives us sugar; pine, turpentine; acacia, gum arabic; caout-chouc, India rubber. Use of the above articles.

Sixth Year. C Grammar.

Review work of previous grades to whatever extent advisable.

Study trees, value of, conditions of growth.

Read "Woodman Spare That Tree."

Learn by sight: Maple, oak, willow, walnut, chestnut, hickory, locust, elm, pine, horse-chestnut, sycamore, apple, cherry, plum, quince, peach. Peculiarities of size, shape; growth of the foregoing.

Learn by sight the following woods as they would come from the shop: Pine, oak, walnut, maple, poplar.

Lumbering as a business. Where? How conducted?

Seventh Year. B Grammar.

Review work of sixth year, any other found advisable.

Find out from what trees came all the wood in this school building, including furniture, rules, slate frames, etc.

What special use is made of each of the common woods?

Can you name all the trees on the play ground?

Eighth Year. A Grammar.

Review work of any previous grades, so far as found advisable.

Historic trees: Washington Elm, Charter Oak, etc.

Trees worshipped by Druids. Read up on the Druids. Celebrated trees of the present time: Giant trees of California; banyan, palms, cinchona (why so named)?

Read "Landing of the Pilgrims."

What kinds of trees were in the "dim wood" at Plymouth? Are they there yet?

NATURE WORK FOR ALL GRADES.

Fall Term—For all grades, with whatever modifications are necessary to suit the age and attainments of pupils.

Fruits—Note different covering of apple, peach, pear, plum, cherry. When ripe? Why have seeds? Which way do the seem in an apple point?

Various uses made of fruits.

Grains—Different appearance in field—rye, wheat, oats, buckwheat, corn. Order of ripening. Bottle samples for school. Note covering of grains. Use of grains. Follow processes from the sowing to the using.

Nuts—Chestnut, hickory-nut, walnut, butternut, etc. When gathered? Bring samples. Bring specimens in the bur or shuck, and with leaves attached (if obtainable). Study the covering and observe how nut lies within.

Compare covering of fruits, grains, nuts.

Note the gradual decadence of vegetation and signs of approaching winter. Temperature, atmosphere, position of sun. Birds, animals (including squirrel and caterpillar), man.

Note the beauty of the autumn leaves, colors.

Bring in leaves picked up on ground and tell the kind. Make collection. Use of fallen leaves.

Late flowers—chrysanthemum, etc.

Read "The Melancholy Days are Come."

Should these day be melancholy?

ALUMNI.

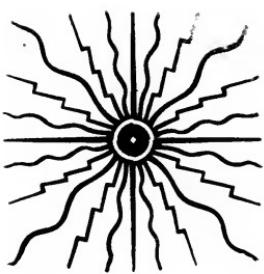
Class of '99, Supt. C. W. Harshman—Elsie M. Hayes, Bernice E. Waters.

Class of 1900, Supt. C. W. Harshman—Alice A. Chambers, L. Claire Cowden, Mary Belle Lane, M. Helen Pelton, C. Florence Shipman Jennie I. Taylor, Sadie A. Webb, Bertha D. Wood.

TEXT BOOKS USED.

| | Authors. | Retail Price. |
|--|------------------------|---------------|
| Readers, Primer, | Baldwin, | \$0 26 |
| Readers, First Year, | Baldwin, | 21 |
| Readers, Second Year, | Baldwin, | 29 |
| Readers, Third Year, | Baldwin, | 33 |
| Readers, Fourth Year, | Baldwin, | 33 |
| Readers, Fifth Year, | Baldwin, | 33 |
| Readers, Sixth Year, | Baldwin, | 33 |
| Readers, Seventh Year, | Baldwin, | 38 |
| Readers, Eighth Year, | Baldwin, | 38 |
| Speller, American Word Book, | Patterson, | 21 |
| Writing, Number 1, | Barnes, | 6 |
| Writing, Number 2, | Barnes, | 6 |
| Writing, Number 3, | Barnes, | 6 |
| Writing, Number 4, | Barnes, | 6 |
| Writing, Number 5, | Barnes, | 6 |
| Writing, Number 6, | Barnes, | 6 |
| Arithmetic, Mental Complete, | Dubbs, | 29 |
| Arithmetic, Elements, | Milne, | 26 |
| Arithmetic, Standard, | Milne, | 54 |
| Algebra, High School, | Milne, | 83 |
| Geometry, | Milne, | 1 04 |
| Language, Elementary English, | Lyté, | 29 |
| Grammar, Elements, | Lyté, | 42 |
| Grammar, Advanced, | Lyté, | 62 |
| Geography, Natural Primary, | Redway & Hinman, | 50 |
| Geography, Natural Advanced, Ohio Ed., | Redway & Hinman, | 1 04 |
| Geography, Physical, | Guyot, | 1 32 |
| History, First Book U. S., | Egglesston, | 50 |
| History, U. S., | McMaster, | 83 |
| History, General, | Colby, | 1 25 |
| Physiology, Intermediate, | Overton, | 42 |
| Physiology, Advanced, | Overton, | 66 |
| Natural Philosophy, Students Manual, | Cooley, | 83 |
| Botany, | Wood, | 1 46 |
| Civics, | McCleary, | 83 |
| Rhetoric, | Quackenbos, | 83 |
| Latin Grammar, Short, | Harkness, | 66 |
| Latin Reader, | Harkness, | 73 |
| Latin, Caesar, | Harper & Tolman, | 99 |
| Literature, American, | Watkins, | 29 |
| Literature, English, | Brookes, | 29 |
| Eclectic English Classics. | | |





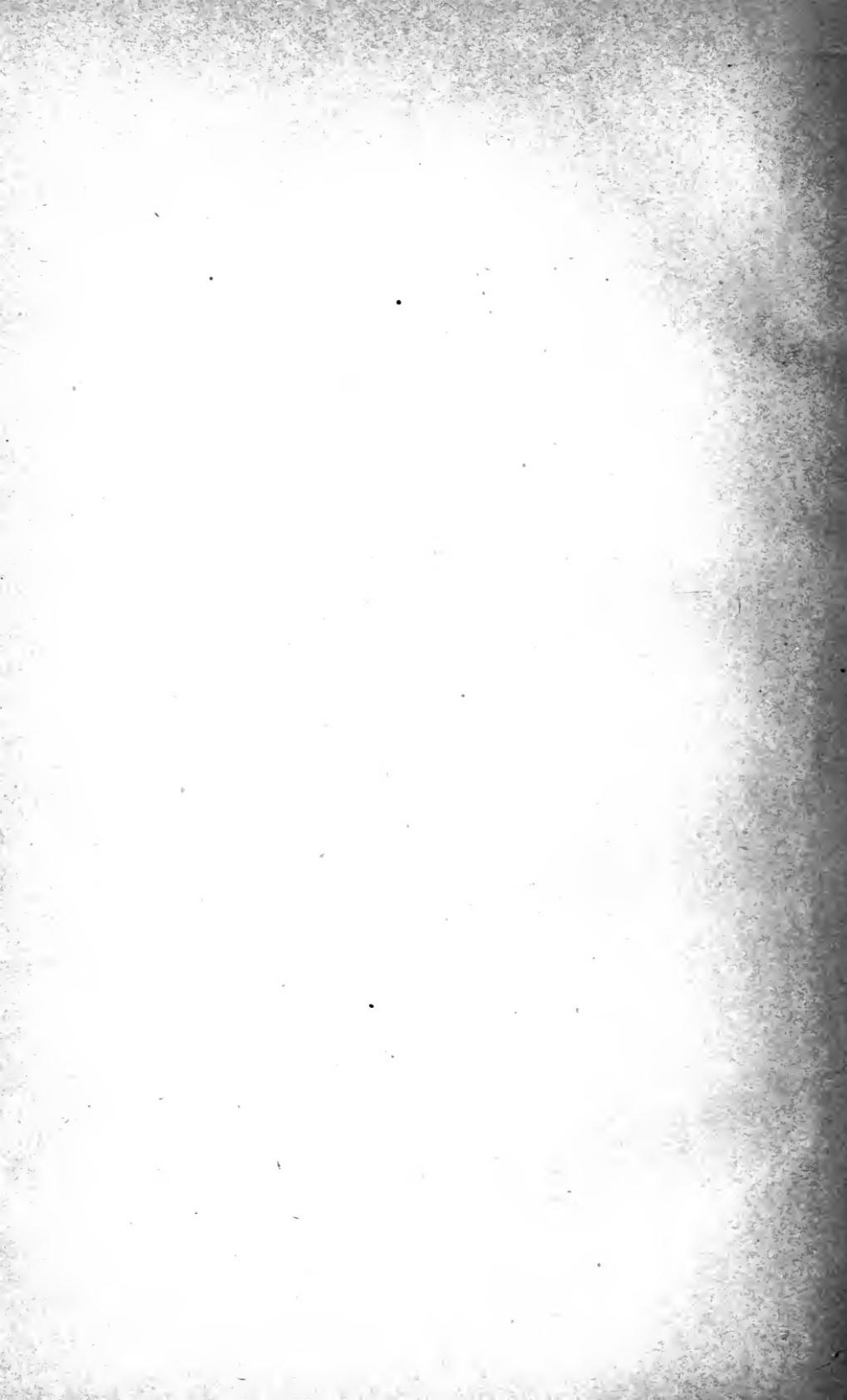














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